SPRECKELS

SUGAR BEET BULLETIN

1970

VOL. 34

AGRICULTURAL DEPARTMENT -- SPRECKELS SUGAR COMPANY

DIVISION OF AMERICAN SUGAR COMPANY

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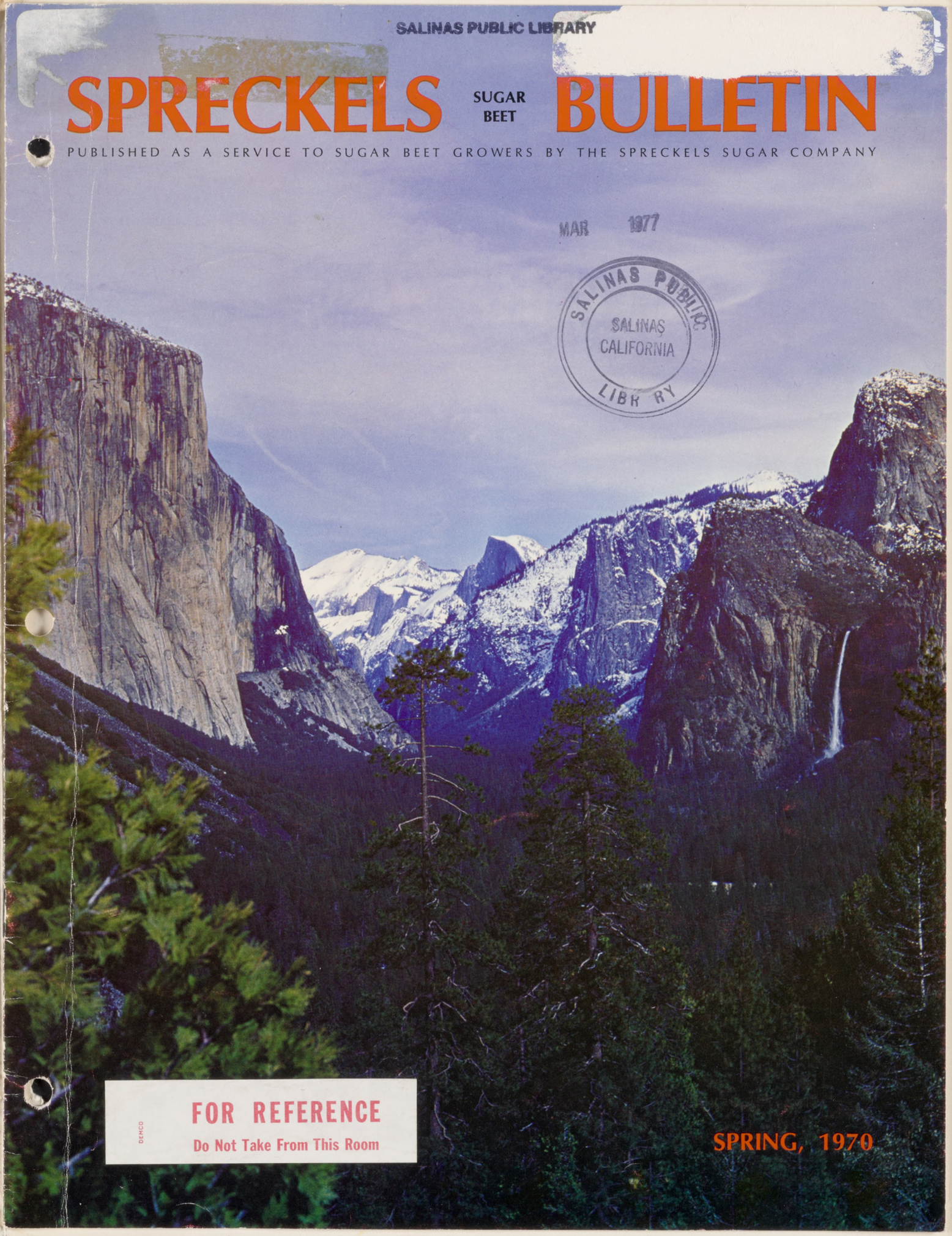

SPRING, 1970

"Bloc Buster"

If you think of our urban population being concentrated in a few big cities, ponder this: There is not one congressional district with as much as 15% farm population in any of the following "small" states—Arizona, Maine, Nevada, New Hampshire, Utah, West Virginia, Wyoming. And, there are 14 additional states in that category, including of course, the big ones like California, New York, and Pennsylvania.

Out of the 435 congressional districts in the United States, only 31 have a fourth or more of their people living on farms. Yet, it was only 50 years ago that half of all Americans were rural.

Most of our national political leaders were included. J. Phil Campbell, Under Secretary of Agriculture, thus put his finger on agriculture's painful political predicament as he recited these facts at the National Plant Food Institute convention. He reminded us that "out of more than 200 million people in this country today, farmers account for only about 10 million, and a substantial proportion of those are not really producing farmers at all."

"The nation now has roughly three million farms. About one-third are commercial farms with annual sales of $10,000 or more. Another one-third are commercial farms with sales under $10,000. The rest are residential farms. The first group accounts for over 80% of farm marketings—the second for about 15%—and the residential farms for less than 5%." If you think that sounds like vanishing political power, you ain't heard nothing yet.

Forget that stuff about a third of all farms accounting for 80% of the marketings. Forget three million farms. Those are still some pretty big, round comfortable political numbers. Instead, try this one for size: Less than 6% of U.S. farms account for more than half of all farm marketings. That's 180,000 farms! Campbell warned, "We must face the fact that there just are not enough legislators from farm districts in the Congress of the United States to enact the kind of farm programs the country needs, without the help of a lot of city congressmen.

Now that is a masterpiece of an understatement. Take those voters on the top 6% of farms. Or even those on the upper-third, which Campbell would rather talk about. They'll do well to register anything larger than a big zero down on the Potomac. And they can expect precious little enthusiasm for their political projects from the two million other country squires, whom the census bureau insists on calling "farmers." Those guys are going to vote right along with the rest of the supermarket customers.

In short, American agriculture has moved from a position of great voting strength to one of practically

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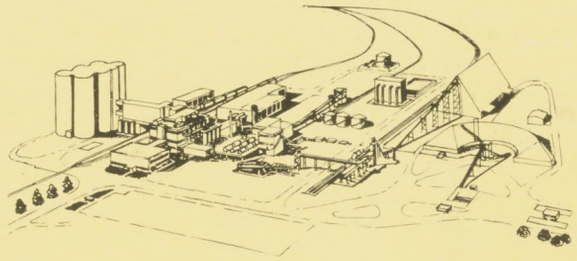

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Cover Comment: "Spring Melt In Yosemite Valley."

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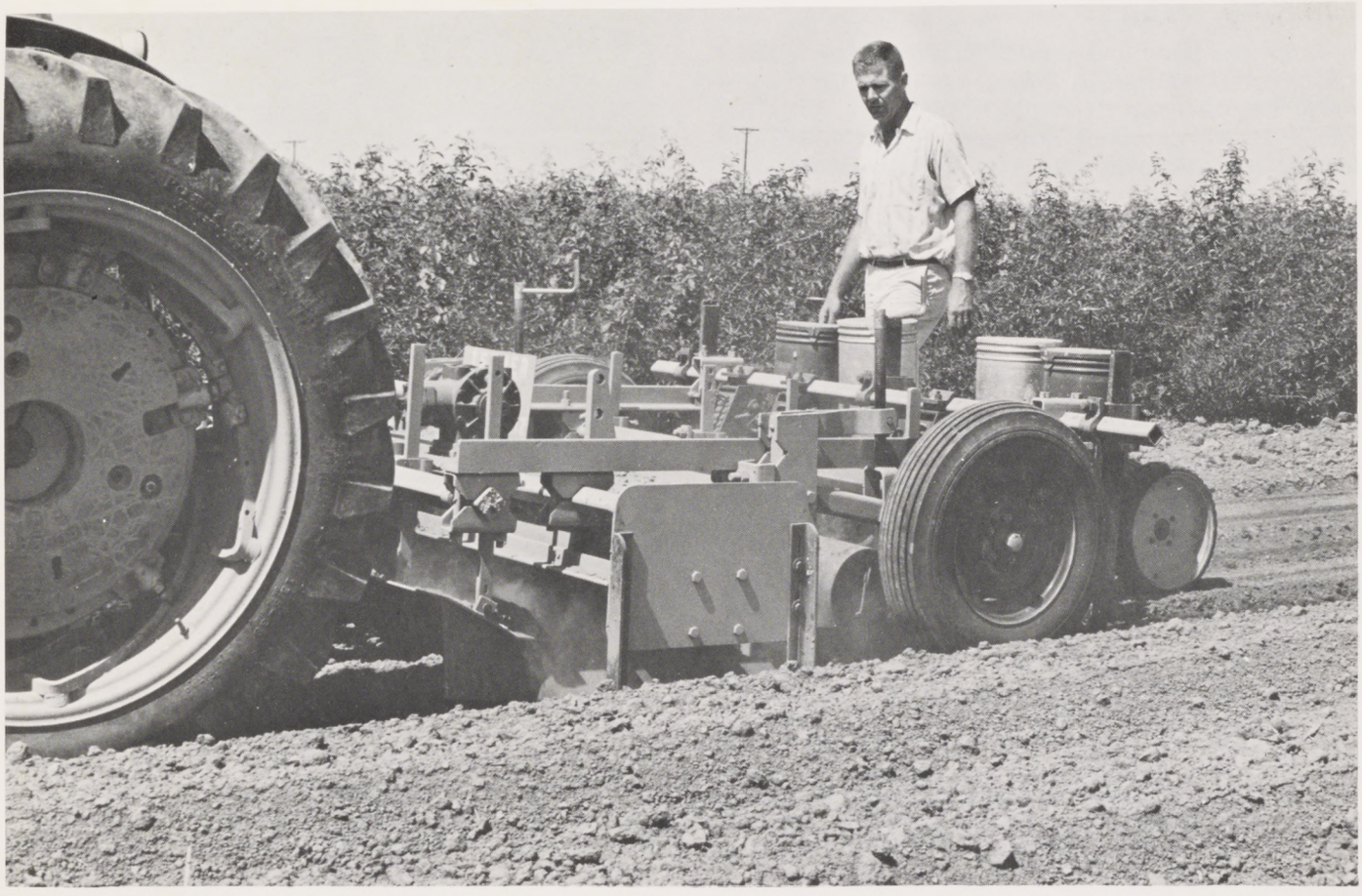


A great deal of progress has been made in sugarbeet research but much more will be needed in the 70's.

SUGAR BEETS

A Decade of Progress
A New Decade of Challenge

It is no secret that agriculture is facing its toughest economic challenge since before World War II. Comparatively, sugar beets offer more appealing short range prospects than most of the alternative crops that are available to the 1970 sugar beet grower. Nevertheless, the 1969 sugar beet crop production record for California has not been good and the spring harvest potential isn't expected to be much better except perhaps in sucrose. All of this is in marked contrast to 1968 when record or near record yields were harvested throughout California.

The importance of weather as a factor in both the 1968 and 1969 crop years can not be underestimated. The delayed start in 1969 drastically restricted yields and the sugar concentration was universally off for all sugar important crops including grapes and tree fruit.

By Lauren M. Burtch, Chief Agronomist, Spreckels Sugar Co.

Although it is true we can not influence the weather, it is also true that we can react to climatic adversities in such a way as to minimize the adverse influence of weather.

During the 60's we actually experienced a slight yield decrease in per acre sugar production. This is the result of several rather significant developments. First, the shift in acreage from the high yielding Salinas Valley to the lower yielding areas in the Central Valley.

The second significant factor in the drop is the disease problems which plagued California during the 1960's. The most serious disease has been virus yellows which became a universal problem between 1960 and 1965 when record acreages and unfavorable weather prevented the establishment of a beet-free period in California. Curly top and leaf spot while never universally present, caused severe losses in yield and quality in several large areas.

Thirdly, came the change in economics. In the early 1960's expanded production ultimately resulted in lower sugar prices and the combination of low yields and low prices forced sugar beets on to less productive soils as growers shifted their attention to crops offering higher economic potential. In addition, many high yielding growers elected not to grow the crop further

contributing toward the decline in production.

In spite of the rather gloomy picture that agriculture encountered during the 1960's, many positive factors were developed which should help the grower of the 1970's achieve a better economic return from sugar beets. Dramatic pluses have been achieved in weed control, disease control, variety improvement and in more efficient equipment.

WEED CONTROL

In 1960, chemical weed control was primarily a dream for the future and only a few growers in very specific areas were able to use chemicals economically. Mechanical cultivation and hand labor were the only dependable approaches for the average grower.

As planting dates were delayed in the virus yellows susceptible areas, summer weed control became a critical problem at the time the crop emerged and Tillam and later Ro-Neet became available from Stauffer Chemical Company. In 1970, Ro-Neet will be used by a large percentage of growers who plant between February and June in California. Ro-Neet, however, is not a complete answer for all growers for it is limited in its ability to control broadleaf weeds and it is an expensive material to apply and incorporate into the seed bed.

As the decade ended, a successful post-emergence program with Pyramin and Dalapon became available for the growers who plant during the late fall and winter months. This program is so far restricted to a rather specific planting period just as the Ro-Neet program is, but the control is extremely successful for many growers in the San Joaquin Valley. Other materials are becoming available which may broaden the weed control spectrum.

Sprinkler irrigation has become an important factor in sugar beet culture in many new sections of California and this approach permits the use of a dependable artificial rain supply for the incorporation of herbicides. Pyramin a specific for broadleaf weeds is being used successfully with herbicides that are specific against grassy weed species. These materials are simply sprayed in bands over the planted rows and are carried into the soil with the initial sprinkler irrigation.

Mechanical weed control methods especially with sled cultivators and sophisticated incorporation equipment have greatly enhanced the value and efficiency of herbicides. The chemical and mechanical approach for the 1970's should further compliment these programs.

Season-long weed control has long been a major handicap for the sugar beet grower. The development of the trifluralin materials, has provided the sugar beet grower with a specific herbicide program for control of weeds that germinate after the crop has passed the seedling and thinning stage. The 1970 grower in all California districts except perhaps the Imperial Valley,

Post-emergence use of Pyramin and dalapon came about in the late 60's and has proven very effective on most winter weeds.

has a combination herbicide program available which should permit him to economically control the common weed problems that have too often been beyond his reach. The foregoing does not imply that the California sugar beet grower's weed problems are solved—for they are not. No single herbicide or combination of herbicides is effective against all weeds. Therefore, minor weed problems of today that resist present chemicals can be expected to become the major weed problems of tomorrow. Thus weed control, not unlike disease control, is a never ending battle. The importance of proper field selection is just as important for 1970 or perhaps even more important under present economic conditions. Land that is foul, even with susceptable weeds, should be avoided for under these conditions an 80-90% control potential may not be adequate.

DISEASE

Virus yellows became the principle limiting disease during the 1960's and while progress has been made through the development of partially resistant varieties, the disease still remains as the most serious threat to economic production during the seventies. The only known vector for this disease complex, the green peach aphid, remains uncontrolled. Many insecticides have proven effective against the aphid but none including Temik (experimental) offer the degree of economical insect control required. As a result, planting and harvest patterns have to be rigidly established and followed to permit the beet industry to escape or avoid the yellows threat. For the future improvements in variety resistance are coming as a development of USH9 has shown. Partial aphid control is possible and this approach can perhaps permit some

A host of herbicides and new techniques for applying them have greatly broadened the weed control spectrum in sugarbeets.

insurance against an unavoidable carryover of beets in beet-free areas. It does not appear realistic, however, to assume that the beet-free area harvest concept can be eliminated during the seventies. Nevertheless this is a priority long range research goal which we hope will be achieved through variety improvement and insect control procedures.

Curly top was an example of the never ending battle with the forces of nature. We entered the sixties feeling quite complacent about the threat of curly top. Resistant varieties were available and improved cultural practices especially in the direction of irrigation frequency had been providing effective control of curly top. In the sixties, however, four epidemic years were encountered and several new virulent strains of curly top were discovered. This demonstrated clearly that in nature victories are short and seldom permanent. The epidemic of 1966 in the South San Joaquin, Arizona and Nevada dealt a severe economic blow. From this setback, however, a new positive control program emerged. This program, as is the case with most agricultural concepts, has been a combination approach with early planting with highly resistant varieties being the corner stone. The use of a preplant insecticide, phorate (Thimet) has provided a threefold reduction in curly top for all conditions tested. This discovery has now been incorporated as accepted practice in most susceptible areas. The continuation of the state leafhopper control program provides the third leg of the program. Since much or the acreage expansion during the late sixties has taken place in curly top susceptible areas, it seems safe to predict that this combination approach will be severely tested during the seventies.

Dramatic improvements in fungicides were achieved during the sixties. Seedling disease, always a severe problem of beet growers, declined as planting procedures improved and systemic fungicides became available. Seedling disease problems will be encountered in the future whenever conditions are favorable but much improvement in emergence has been achieved as the trend toward reduced seeding rates testifies.

Mildew, once a serious threat in coastal areas virtually dropped from the scene during the sixties.

Many fungi and bacterial conditions can result in rot losses. These losses can be substantial in some areas under some cropping or weather conditions. In general these situations have to be handled by rotation practices and by improving cultural practices.

Cercospora leaf spot remains as a serious problem whenever conditions which favor its development are present. The development of systemic fungicides which occcurred during the late sixties should become commercially available by the summer of 1970. These materials have proven effective when they have been applied correctly. The problem is the sporadic nature of the disease in the west which makes it difficult to combat in a timely and effective manner. Resistent commercial hybrid lines have been developed during the sixties and these lines may be combined with fungicides to reduce the threat to sucrose that occurred in 1967 in California and every year in eastern Arizona.

INSECTS

Insects other than vectors for virus diseases have been more troublesome. Insecticides, once unknown to the beet grower, became major cost items for him during the sixties. The projection for the seventies is clouded by residue and adverse publicity problems. Further, insect control problems for the sugar beet grower are more serious now than ever before. Materials that were once effective against worms, mites, and aphids have either lost much of their effectiveness or have been removed from agricultural use through residue restrictions. We enter 1970, therefore, without an effective method for controlling the leaf and root feeding worm problems that are ever present. Stop gap measures are available but they are both expensive and relatively ineffective.

The nematode problem has not changed greatly in recent years. Root knot nematode control methods were developed during the 1950's and have become standard cultural practices for growers in susceptible areas.

Sugar beet nematode problems remain as a priority item for 1970. Crop rotation restrictions were introduced in all Spreckels areas during the early part of the decade. The present practice of not planting beets on the same land oftener than one year in three or four has hopefully stabilized the situation somewhat. Control of this pest is still in the future but the acceptance of the prevention concept in newly de-

TABLE I

THE RELATIONSHIP OF HARVEST NITRATE LEVEL AND SUCROSE PERCENT

	LOW NITRATE (1-2)		MEDIUM NITRATE (2-3)		HIGH NITRATE (3-3.5)		VERY HIGH NITRATE (3.5+)	
	Contracts	Pct.	Contracts	Pct.	Contracts	Pct.	Contracts	Pct.
1966	174	14.4	183	14.1	119	13.9	122	12.8
	29% of Total		30% of Total		20% of Total		21% of Total	
1968	136	15.2	289	14.2	69	12.8	14	12.5
	27% of Total		57% of Total		13% of Total		3% of Total	
1969	44	14.7	201	13.3	96	12.8	53	11.9
	11% of Total		51% of Total		24% of Total		14% of Total	

veloped areas in combination with reasonable crop rotation restrictions has bought time. The hope for the future lies ultimately in the development of resistant varieties and improved chemical fumigation methods. Fumigation is offering economically feasible improvements in some older beet growing areas in states where the problem has forced sugar beets from the cropping sequence. In California this approach has not been as successful perhaps because of a less favorable climatic situation as well as heavier soils which are more resistant to the fumigation approach.

A decline in average sucrose concentration started during the 1940's and has continued through the 1960's. This decline has long been associated with fertility and irrigation management. Improvements in nitrogen management has long been a research and production goal in the California sugar beet industry. Unfortunately, acceptance of the value of nitrogen management principles has been slow. Recently, however, the adverse effects from over use of nitrogen have been felt by other crops such as tomatoes, cotton, melons, small grains and even urban cities who have found harmful quantities of nitrates in their water.

The beet industry which was the first large industry to be affected is now being joined by other groups and as a result, the abuses of the early sixties were being recognized and reversed to a degree as the decade closed. Table I illustrates the nitrogen influence on sucrose and the percentage of contracts which fall into various categories.

It can be seen from the table that nitrogen management alone can account for a range in sucrose of from 1.6% in 1966, and 2.7% in 1968 and 1969. The table also shows that sucrose values for the same nitrogen levels change from year to year depending on climatic and cultural factors.

A single quantitative nitrogen recommendation for sugar beets has long been sought but is still not available. However, many practical visual and chemical guides have been developed in recent years. These guides used judiciously with historical nitrogen and crop rotation records can help the vast majority of growers to improve their sucrose percentage as well as their gross sugar yield. The guidance and cooperation of the grower's field superintendent will help lead the way into an enlightened nitrogen management program. Once again field selection becomes an all important consideration.

Phosphate applications have been on the increase during the sixties and this trend should accelerate in the next decade. The principle response is during the early seedling stage but significant yield increases were obtained in more areas during the past decade than ever before.

Potash has not yet beome an important fertilizer additive in California and while some speciality crops have shown response, the use of potash in sugar beets is not expected to increase in the near future. Minor elements tend to fall into the same category and it is expected that the majority of research attention in the immediate future will be with other crops in the rotation rather than sugar beets.

The other aspects of beet quality involve water management, planting and harvest dates and as far as possible avoiding weather adversities. Irrigation frequencies and improved cultural practices should pay great dividends in the seventies as long as disease problems can be kept under control. The successful implementation of these principles depends on the ability of the beet industry to keep sugar beets in a favorable economic situation. Twenty years ago, sugar beets were considered a cheap crop to grow—costs have increased throughout agriculture to the extent that no crop grown in rows is a cheap crop, hence the importance of keeping the dollar return from sugar beets relatively high will continue to be a major challenge for the future.

A. Armer

Day length, light intensity, temperature, plant population, mineral nutrition, moisture, and variety all affect sugarbeet quality, but none of these factors affect sucrose concentration as strongly as nitrogen nutrition. Nitrogen management is definitely a paying proposition.

Sugar Beet Quality

By F. J. Hills

Dr. Hills is Extension Agronomist, Agricultural Extension Service, University of California, Davis.

As far as the grower is concerned, high quality means roots that are high in sucrose concentration. All beet growers know the importance of quality to the price they receive for a crop.

Day length, light intensity, temperature, plant population, mineral nutrition, and variety all affect quality, but none of these factors affect sucrose concentration as strongly as nitrogen nutrition. While there is little a grower can do about climatic conditions, he can influence nitrogen nutrition by careful fertilizer management.

After making certain that all of the other essential nutrients have been adequately supplied to a crop either by natural fertility of the soil or by fertilization, nitrogen should be supplied in an amount sufficient to provide for vigorous top and root growth early in the season and yet allow the plants to become nitrogen deficient from 4 to 8 weeks prior to harvest. If this is done, the sucrose content of sugar beet roots should be at a maximum for the particular climate in which the beets are growing. In cool climates, sucrose percent will be higher than in warm and hot climates.

Unfortunately, large, green tops are the image of the prosperous beet crop and it is hard for a grower who is to harvest in mid-September to allow tops to become yellowish and small and allow his field to appear "ragged" looking in early August. Yet, this is what should happen if he is to have a high quality crop. A crop to be harvested in mid-October

should show the same symptoms on the first of September. A crop to be overwintered should be nitrogen deficient by the middle of October.

Now is the time to plan how you will produce the most profitable beet crop—a quality crop! Consider the following points:

A What date will you plant and harvest and how many tons per acre can you reasonably expect from this growing period?

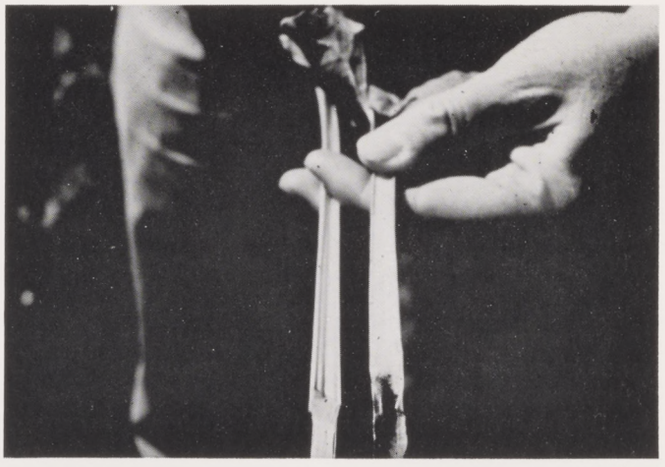
B Is the field you will plant one of low, medium, or high fertility with respect to nitrogen. If soil tests indicate you may need phosphorus, apply it as it will help you produce a larger crop and efficiently use the nitrogen you apply.

C Decide on the N rate you will use and apply this by thinning time. Below are some suggested nitrogen rates for different levels of crop production and fertility conditions. If anything, we would consider these rates to be on the high side and some situations may warrant the use of less nitrogen. (See Table I)

D Watch your crop closely to insure against underfertilization. This can be done by the following methods:

1. Take petiole samples at two week intervals, starting about two weeks after thinning, and have them analyzed for nitrate-nitrogen. Indications of deficiencies 10 weeks or more prior to harvest can be corrected by additions of from 40-60 pounds of N per acre.

2. Apply nitrogen test strips. When you fertilize your field apply a strip at twice the fertilizer rate and another at ½ the rate you used on the majority of your field. If the field has been seriously under fertilized, the strip with the ½ nitrogen rate will appear lighter green than the balance of the field early in the season. If this occurs plants receiving the field N rate can be evaluated by the diphenylamine test and corrective measures taken if it appears these plants will soon be deficient. An impending N deficiency is usually indicated by a negative test (no color) on 20% or more of the petioles from a random sample of at least 20 plants. Ask your Field Superintendent or Farm Advisor how to make the diphenylamine test and where to obtain the chemical.



J. Hills

The diphenylamine test. The cut surface of the petiole on the right turned dark blue when the reagent was added indicating an ample supply of nitrate. The petiole on the left remained colorless indicating a lack of nitrate.

E Post season evaluation. When your crop is in, consider your root yield, sugar content, the results of petiole analyses or test strip evaluations and whether or not there were other limiting factors that might have seriously reduced root yield. This evaluation should help you do an even better job next year.

Table I

SUGGESTED NITROGEN RATES

Fertility Status	Crop production (tons roots/acre) 20	25	30
	lbs. N/acre		
Low	120	150	180
Medium	80	100	120
High	40	50	60

Agricultural Staff Notes

Selected notes and observations from Spreckels Sugar Company's Agricultural Research and Field Staffs.

Mechanization

Mechanization is becoming more of a reality in the Southern Salinas Valley. With the ever rising cost of hand labor, growers have no choice but to utilize spaced planting, chemical weed control and some means of mechanically eliminating excess beets and weeds rather than relying on hand labor.

A number of growers are experiencing good spaced planting results by using the Stanhay, John Deere 33, and AMF (Dahlman) planters metering seed out at under 3 pounds per acre on double row beds.

Weed control programs generally consist of using two different chemicals. Endothal is being used at a rate of 5 quarts per sprayed acre in a band over the top of the bed then sprinkled into the soil with ¾" of water. Very good results have been obtained with this chemical in heavy soils on December and January planted sugar beets. The other material being used is Pyramin which is incorporated 3 inches deep in a 26 inch band at a rate of 2½ lbs. per acre. A number of acres have been treated in this manner.

Hand labor for thinning or blocking at the present time will run about $25.00 per acre for a crew to walk through your field and you have no guarantee you will get a good job. On the other hand, there are a variety of mechanical tools available on the market that will both thin beets and remove weeds if the grower wants to take advantage of them.

Since hand labor constitutes a sizeable portion of production expense, a serious attempt at chemical weed control and a concerted effort in making mechanical thinning work are definitely ways of reducing growing costs of sugar beets.

Norm Rianda—Salinas

——o——

New Blocker

An idea that was originally conceived as a cotton blocker has now made its debut in a beet field. Ross and Darrel Borba of Five Points, California, were the designers and builders and are now using it in their 1970 beet crop.

This blocking unit is unique in several respects. It is made of scrap metal and is mounted on the four spider Lilliston cultivator which has exterior spindles to accommodate a fifth spider. The speed of travel allowed by this unit is somewhat faster than most pattern type blockers.

The blocking unit itself consists of knives made from old disk blades, five ¾" sucker rods about 5" long and a round piece of 1" plate steel (5" diameter) with a hole centered in it to fit the spindle of the Lilliston.

The blades are welded on the end of the sucker rod and the rods in turn to the plate. The knives are extended beyond the tip of the teeth of the Lilliston approximately 1" to 1½" to allow an adequate cut. The action of the Lilliston is to struggle to get ahead of the knife, thus allowing the knives to make a positive cut into the bed.

The length of the knives determines the gap or space between cuts. The Borba Brothers used a 3" spacing between their knives.

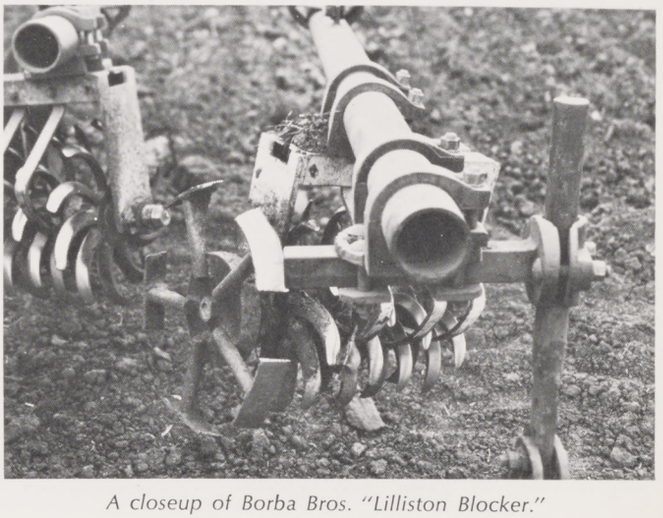
Adjustments of the units arc simple. They are very similar to the Arkansas Windmill or the Crop Master units. The cultivator is rigid but flexible enough to compensate for varying conditions in bed height and shape.

The Borba's planted around 3 pounds of seed per acre and even with this heavier seeding rate a high percentage of single plants was attained.

Ross and Darrel plan to further adapt their Lilliston for in the row weeding. They hope to develop a tine weeder to run in place of the blocking knife.

Richard Heimforth—Mendota

——o——



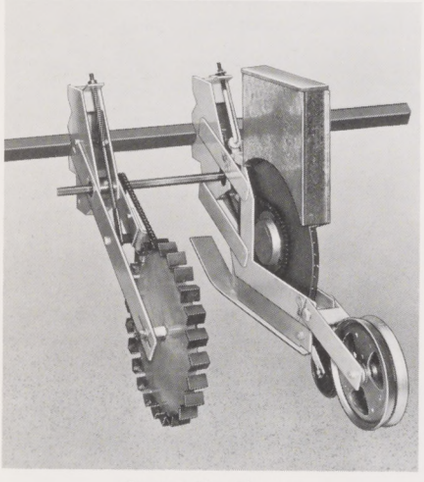
A closeup of Borba Bros. "Lilliston Blocker."

New High Speed Precision Planter

Winslow Pacific, Inc. recently introduced a new high speed precision planter called the "Centra-Flo" planter. The planter can operate at speeds up to nine miles per hour and is three times as fast as conventional equipment currently in use.

The Centra-Flo utilizes a unique spiral seed cell ring which virtually eliminates seed cracking or splitting. The seed cell ring also assures positive seed metering at low or high speed operations to provide precision planting.

Seed follows a path down from the hopper into the center of the planter wheel where it is picked up by the cell ring and deposited into radial channels extending to the perimeter of the seed wheel.



Centra-Flo Planter

Seed acceleration is induced in the channel between the seed cell ring and the perimeter. Because of this acceleration, the Centra-Flo can precision plant at high speeds while assuring accurate drop without bounce or other movement. Seed is placed in the planter-made furrow with relatively no forward motion.

The planter is only three inches wide which enables high density planting of rows as close as three inch centers from a single tool-bar. The planter wheel and hopper assembly are quickly removable from the planter frame which insures easy maintenance and rapid set-ups.

Further information can be obtained from Winslow Pacific, Inc., 466 East Durarte Road, Monrovia, California 91016.

—o—

International Speedminder

New International Seedminder

No more digging in the rows, watching the hoppers or worrying about how your planter is doing. Now just mount the International Seedminder on your tractor hood. Blinking lights, one for each row, keep you informed of what is going on. Seedminder indicates planter malfunctions, such as plugged openers or seed tubes. Seedminder also extends the length of planting day—plant around the clock with no worries. You know of any trouble the second it occurs—you save time and money.

All you have to do is watch the control panel. A flashing or blinking light indicates seed flow. A constant "On" or "Off" light tells you that there is trouble and indicates the row that is malfunctioning. Seedminder is easy to install on tractor and planter. Wing nuts secure the console to the mounting bracket to make it easy to take the console off and store away after planting season. Sensor unit completing packages are as easy to install as new seed tubes. Quick Disconnect Plug between planter and tractor separates with less than 12 pounds of pull, prevents damage in case you drive away the tractor without disconnecting the cable.

—o—

New Line of Precision Applicators

Clampco, Inc. now offers a full line of precision applicators and accessories for herbicides, insecticides, and fertilizers.

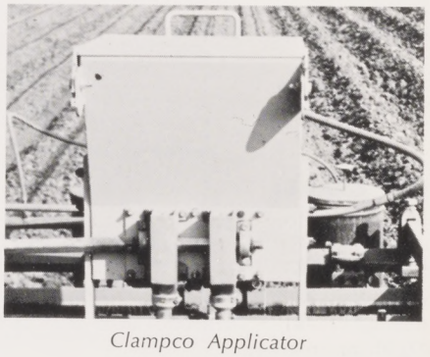
The Select-a-Dial Distributor used in the applicators is an entriely new approach to the precision application of dry materials. Each assembly consists of a group of individual units made up of a heavy plate with dial openings to suit the range of application desired, together with feeder dials, shaft, ball bearings and spouts.

To change calibration from one material to another, simple changes in sprockets on the hopper drive shaft, and/or changes of sprockets on the ground drive wheel enables speed changes, which once set for a given quantity and ground speed will insure calibration.

These units can also be furnished with orbit drive hydraulic motors and varible speed flow valves with built-in bypass, offering infinite control.

In connection with the sale of Select-a-Dial Distributors, Clampco offers an engineering service to assist fertilizer companies, dealers and growers to layout their material handling and servicing of units.

Further information may be obtained from Clampco, Inc., P. O. Box 1427, Gilroy, California 95020.



Clampco Applicator

Hugh F. Melvin

It is with a deep sense of loss that the Bulletin reports the death of Hugh F. Melvin, retired Agricultural Manager for Spreckels Sugar Company.

A native of Billings, Montana, Mr. Melvin came to California in the early 1920's and graduated from the University of Southern California in 1924. After serving as a Lieutenant in the U.S. Cavalry during World War I, he was employed by Spreckels Sugar Company in the Manteca District. A few months later he was transferred to the Company's Sacramento District as Field Superintendent. Mr. Melvin then became successively Assistant Agricultural Superintendent, Agriculturist, and District Manager of the Sacramento and San Joaquin Valley Districts. In 1954 he was promoted to Agricultural Manager and transferred to the San Francisco headquarters, where he served until his retirement in 1965.

Until his death he was Vice President, Director and General Manager of the San Francisco-Fresno Land Company and served as director and trustee for several water districts in the San Joaquin Valley.

President Franklin D. Roosevelt awarded Mr. Melvin a special citation for his outstanding contribution to agriculture during World War II. In 1964 the American Society of Sugar Beet Technologists honored Mr. Melvin for his long and distinguished service to the sugar industry by presenting him with the Society's coveted Forty Year Veteran Award.

In addition to his many contributions to the sugar industry and to Spreckels Sugar Company, Mr. Melvin was active in civic and community affairs. He was a member of the Concord Lodge of Masons, the Scotish Rite, Ben Ali Temple of the Shrine in Sacramento, Phi Delta Theta Fraternity, and the San Francisco Press Club.

Hugh F. Melvin

Mr. Melvin is survived by his widow, Mrs. Ethel Melvin, of Oakland, a son, Hugh F. Melvin, Jr., of Sacramento and three grandchildren.

Staff Changes

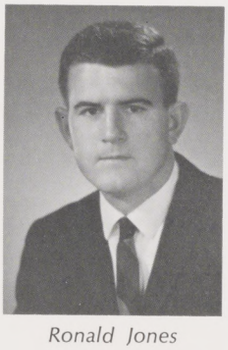
Jeff L. Stober, Assistant Field Superintendent in District III, Woodland, was recently promoted to the position of Field Superintendent.

Mr. Stober is a native of California and a graduate of Chico State College where he majored in Agri-business. He was previously employed by the Mt. Adams Orchard Company in White Salmon, Washington and the Roy Riegels Chemical Company in Woodland.

Mr. Stober and his wife Janis reside in Sacramento.

Ronald L. Jones formerly Field Superintendent in District III, Woodland, has been transferred to District IV, Mendota. He will resume his responsibilities as Field Superintendent in the Mendota area.

Jeff Stober



Ronald Jones

He joined Spreckels Sugar Company in 1967 as an Assistant Field Superintendent. In 1968 he was transferred to the Woodland District where he served until the present.

He is a native of Bakersfield, California and attended the California State Polytechnic College at San Luis Obispo where he majored in Agricultural Business management.

Mr. Jones, his wife Kathleen and family will reside in Fresno.

ACREAGE CERTIFICATION

Sugar beet growers must now certify their planted acreage to their County A.S.C.S. offices. The United States Department of Agriculture recently announced that certification would be mandatory beginning with the 1970 crop of sugar beets.

Grower acreages were formerly measured by the Company and submitted to the A.S.C.S. but this procedure is no longer acceptable.

The new regulations state that any grower who knowingly certifies less acreage than he has planted may face the possible loss of his Conditional Payment. Measurement services are available through the A.S.C.S.

It would be advisable for every grower to contact his local A.S.C.S. office as soon as possible and obtain full details of the sugar beet acreage certification requirement.

Dr. Russell T. Johnson

Lauren M. Burtch

Dr. Helen Savitsky

Dr. Carlyle Bennett

Dr. James Fife

A. S. S. B. T.

Beet Scientists Meet

The American Society of Sugar Beet Technologists recently held its 16th biennial meeting in Denver, Colorado.

Over 750 scientists and technicians from the staffs of U.S. beet sugar processing companies, the U.S. Department of Agriculture and several state universities were on hand in addition to specialists from Japan, Iran, England, Canada, Sweden, Belgium and Germany.

More than 150 scientific papers were presented covering virtually every phase of sugarbeet and beet sugar production. Subjects presented and discussed ranged from seed breeding to environmental control.

Dr. Russell T. Johnson, Vice President of Agriculture and Research, Spreckels Sugar Company, was elected Vice President of the Society and Lauren M. Burtch, Chief Agronomist, Spreckels Sugar Company, was elected to the Society's Board of Directors.

CALIFORNIANS HONORED

Three research scientists from California, Dr. Helen Savitsky, Dr. Carlyle Bennett, and Dr. James Fife received the Society's Forty Year Veteran Award.

Dr. Savitsky entered on a career of sugarbeet research in 1927 as a junior specialist, Cytology Laboratory, Belaja Zerkov Breeding Station of Sugar Trust, Belaja Zerkov, U.S.S.R. She was appointed chief of the Cytology Laboratory, All-Union Research Institute of Sugar Industry, Kiev, U.S.S.R. in 1933 remaining until 1943 when she left the Soviet Union. During 1943-45 she conducted sugarbeet research in Poland and in 1945-47 in Germany. She emigrated to America in 1947 and has conducted research on Cytogenetics of Sugarbeet and Interspecific Hybrids of the Genus *Beta* since that time. With her husband, the late V. F. Savitsky, she co-discovered sugarbeet plants among American varieties that produced monogerm seed. She played a large role in further developing the monogerm character into modern hybrids.

Dr. Bennett entered duty as a Plant Pathologist with Sugarbeet Investigations, USDA, at Riverside, California in 1929. Later he was transferred to the U.S. Agricultural Research Station at Salinas, California. For a short time he was on loan to Horticultural Crops Research Section, USDA, on a special assignment in Brazil. He has devoted his entire professional career to virus diseases of sugarbeet. His research has provided principles for disease control through direct measures and by breeding for resistance. His studies have been international in scope and he is considered the world's best authority on the virus diseases of sugarbeet. His present research on Yellow Wilt of sugarbeet is supplying information on a serious disease of sugarbeet in South America which stands as a hazard to the crop in North America.

Dr. Fife began his career of sugarbeet research as a biochemist in 1929 at Riverside, California. His early research related to biochemical changes in the sugarbeet as related to various chemical treatments and to infection by the curly top virus. Later research pertained to factors inducing bolting of the sugarbeet. He made significant contributions toward the separation of physical factors and inherent tendency of sugarbeet to change from vegetative to reproductive growth. For the past two decades Dr. Fife has devoted his effort to an understanding of the relation of virus infection to amino acid concentration in the sugarbeet and the relative ratio of certain of these acids as a criterion of resistance to the virus. He is currently located at the U.S. Agricultural Research Station, Salinas, California.

"BLOC BUSTER"

(Continued from page 2)

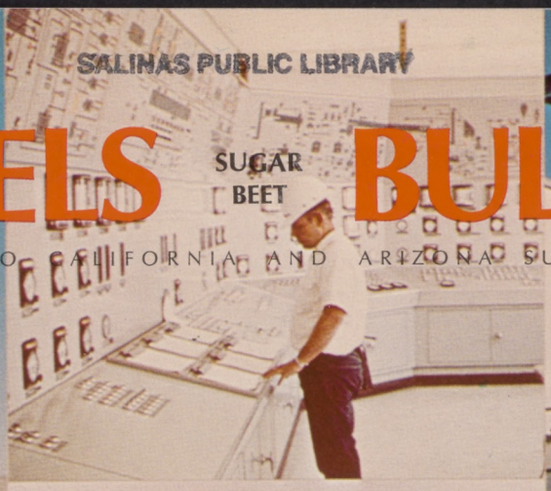
no voting strength. At the same time, it has changed from a posture of economic dispersion to one of great economic concentration. It must now take its place in line with other industries.

The political attention and consideration agriculture receives will no longer result from what agriculture demands, but rather, what the rest of the nation believes it wants for—and from—its agriculture.

Richard M. Beeler - Agrichemical West

SPRECKELS SUGAR BEET BULLETIN

PUBLISHED AS A SERVICE TO CALIFORNIA AND ARIZONA SUGAR BEET GROWERS



General News and Comments

Record Crop. It now appears that California's sugar beet growers will celebrate the 100th anniversary of the United States Beet Sugar Industry with an all time record crop. The last record crop was in 1959 when California's sugar beet growers produced an average of 23.7 tons per acre and 15.3% sugar. The 1970 crop should easily top 24 tons per acre and 15% sugar. Another bonus will be the value of the crop. Due to an excellent sugar marketing year so far, the net selling price basis of settlement should be at a record level.

Salinas Valley. Harvest has been completed of the finest sugar beet crop ever in District 1, Salinas. Growers averaged 34 tons per acre and 16 percent sugar. The valley's previous best was in 1968 when tonnage and sugar averaged 31.93 and 15.28 respectively. Another noteworthy item is the cleanliness of the sugar beets delivered by valley growers who averaged 95.37 percent clean beets.

Sacramento Valley. Only a small acreage of District III, Woodland, sugar beets have been harvested thus far, but the final yield is projected at 22 tons per acre and 15.5 percent sugar. This will be a better than average crop for the Sacramento Valley but probably not a record one.

North San Joaquin. Growers in District 2, Manteca, are in the process of harvesting their finest crop ever. The final yield is expected to be in excess of 27 tons per acre and 15.5 percent sugar. The last record crop in this area was 1968 when growers averaged 24.95 tons per acre and 14.95 percent sugar.

South San Joaquin. Harvest of the 1970 crop in District 4, Mendota, was 75 percent completed at press time. Final yields are projected at 25 tons per acre and in excess of 14 percent sugar. This represents a 4½ ton per acre increase over an average crop and will easily surpass all previous record crops.

Harvest. Harvest has progressed well to date considering the unexpected size of the record crop. All Spreckels factories have been slicing at rated capacities and only a few operational shutdowns have been required. The company is making a major effort to handle the excess tonnage. Sugar beets have been shipped out of factory districts whenever slice is available at other factories. Some sugar beets out of the Southern San Joaquin Valley, for instance, have been sent to the Chandler, Arizona factory to help relieve harvest pressure. In addition, sugar beets are being piled at the Woodland, Manteca and Mendota factories for later processing which enables the harvest to proceed at a higher volume than normal. This is the first time sugar beets have been piled at the Mendota Factory.

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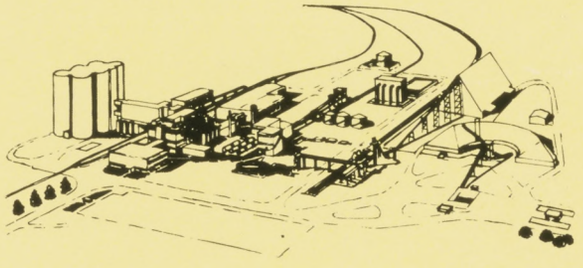

Spreckels Sugar Beet Bulletin is published quarterly by the Agricultural Department of Spreckels Sugar, Division of Amstar Corporation, as a service to its growers. Mention of specific methods, devices and implements does not constitute an endorsement by the Company. Please address all communications to: Spreckels Sugar Beet Bulletin, P.O. Box 325, Mendota, California 93640. Please include your zip code.

Cover Comment: See page 23.

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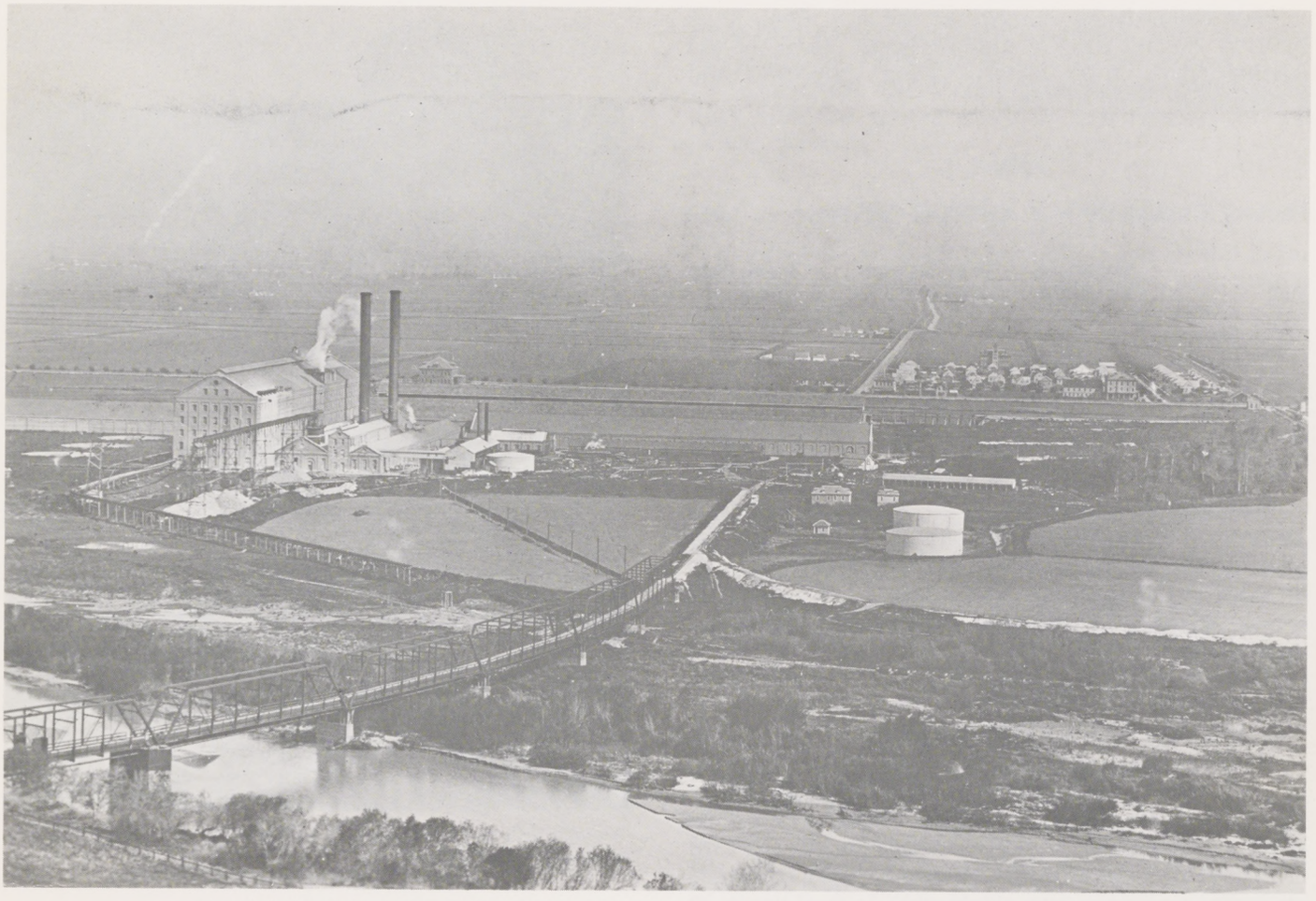


Spreckels Sugar Company's Salinas Factory and the town of Spreckels at the turn of the century.

100 YEARS

The U.S. Beet Sugar Industry

The following article was compiled from material supplied through the courtesy of Mr. David C. Carter, Director, Information and Public Relations, United States Beet Sugar Association.

1970 marks the 100th Anniversary of the beet sugar industry in the United States. The industry which todays spans this nation from coast to coast and border to border traces its American origin to California. In 1970 Ebenezer Dyer built a small factory at Alvarado, California near the east shore of San Francisco Bay. Some 14 other factories dating back to 1838 had been constructed prior to Alvarado but all of them failed. Alvarado was the first permanently successful beet sugar factory built in the United States. It operated under various owners until 1968 when it was closed down.

The second successful beet sugar factory was erected in 1888 at Watsonville, California by Claus Spreckels. This factory operated until 1899 when Claus Spreckels built a factory near Salinas. The Watsonville plant was dismantled and some of its machinery utilized in the Salinas plant.

Spreckels Sugar Company's Salinas factory has operated continuously since 1899. It was originally built to slice 3,000 tons of sugar beets per day and was the largest beet sugar factory in the world. Its capacity was expanded over the years to its present slice of 6500 tons per day. To this day the Salinas factory remains one of the largest factories in the world.

In this centennial year 12 sugar beet processing companies operate 59 factories in 19 states. Sugar beets are grown by thousands of independent farmers under contract to the companies in 29 states from Maine to California.

(Continued on page 16)

Total daily slicing capacity of the U.S. Beet Sugar Industry is now 200,955 tons of beets. Some of the leading states, their factory slicing capacities, and acreages are listed in Table I.

TABLE I

Factory Capacities and Acreages by State — 1969

State	Number of Factories	Daily Capacity (Tons of Beets)	Sugar Beet Acreage
California	10	40,100	348,000
Colorado	10	25,275	193,000
Idaho	4	25,600	186,900
Minnesota	4	13,500	164,300
Michigan	5	10,900	92,600
Washington	2	10,525	64,600

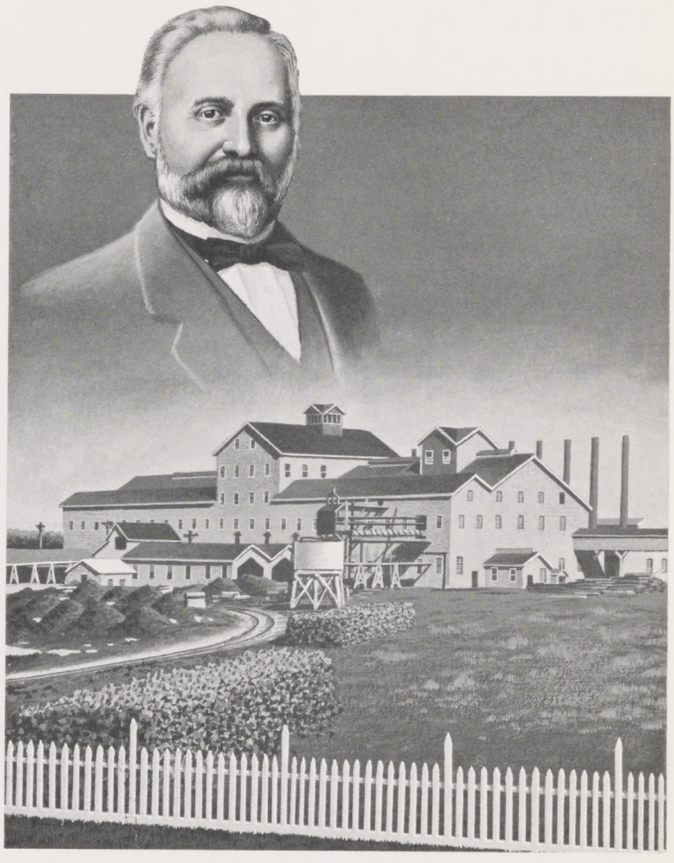
In the last 25 years total beet sugar production has more than doubled from 1.7 million tons per year to over 3.5 million tons. Today the U.S. beet sugar industry is the largest American producer of sugar, supplying upwards of 30 percent of all U.S. sugar requirements.

SUGAR ACT

Prior to the firm estabilshment of the beet sugar industry the United States was almost entirely dependent upon foreign sugar supplies. At times, prices skyrocketed — up to 30 cents a pound. Just as quickly prices could plunge to levels below the cost of production. Such erratic swings worked hardships on both consumers and producers. It was partly to avoid such hardships that Congress passed the Sugar Act in 1934. Ever since the Act was passed the beet sugar industry has stabilized, our foreign trade has prospered, and the consumer has been protected.

The Sugar Act has three basic objectives, which are: (1) to assure American consumers an adequate supply of sugar at reasonable prices; (2) to encourage foreign trade, and (3) to provide a healthy economic climate for a competitive domestic sugar industry.

The Act works in the following manner: Each year the Secretary of Agriculture estimates our sugar needs and establishes quotas for various supplying areas to meet those needs. These quotas are established according to a pattern set forth specifically in the law. Quotas for the domestic areas, both beet and cane, amount to 60 percent of this country's annual sugar requirements with the balance, 40 percent, being established for friendly foreign nations. Beet sugar accounts for approximately 60 percent of the domestic quota with the balance coming from Hawaii, Louisiana, Florida, and Puerto Rico. In the beet area the sugar quotas are transposed to the acreage necessary to produce sugar beets to meet such a quota and the acreage is further broken out to a state, then county, and finally to an individual farm basis. The Sugar Act, therefore, is national, even international in scope and when the legislation is carried to its ultimate, it covers every sugar beet grower in the country.



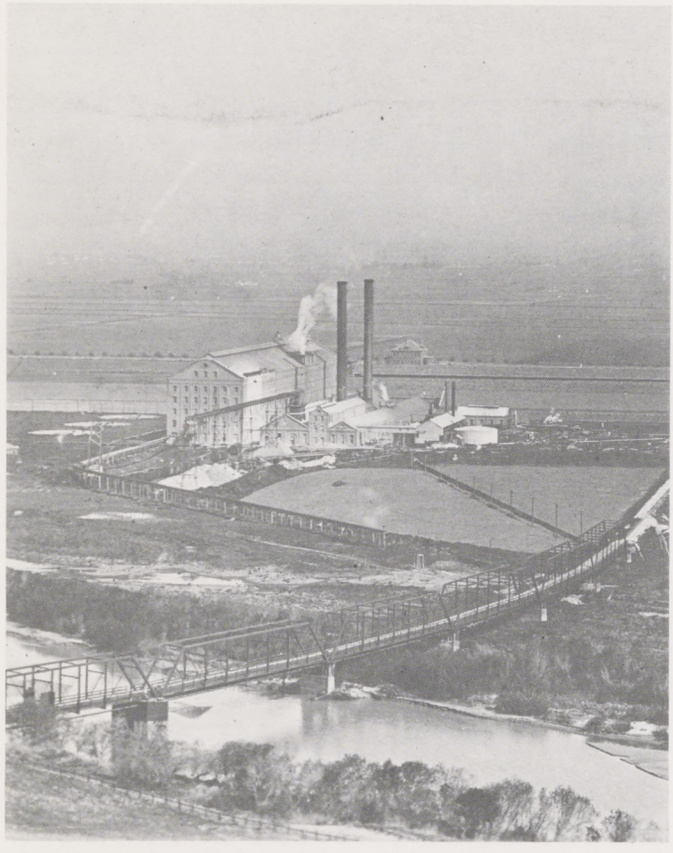
The first beet sugar produced in California by Claus Spreckels was at Watsonville, in 1888.

As outlined earlier, the number one objective of the act is to assure the American consumer an adequate supply at reasonable prices.

The Act has performed well in this respect. Using 1935-39 as the base period and measuring 100 on the scale, the relative price of sugar today stands at just over 200. Per capita income now stands at nearly 600. By this measurement, the relative price of sugar in 1970 is one-third of what it was in 1935-39. This indicates to us that the "reasonable price" objective of the act has more than been accomplished.

Housewives will recognize the importance of this not only because of the relative low price of sugar at the market, but by virtue of the fact that a great variety of the things she buys of a canned or packed nature, use sugar as a principal ingredient.

The industrial user — the canner, the baker, the bottler, and other food processors — buy about 75 percent of all the sugar used in this country. These businesses benefit directly from the "reasonable price" objectives of the sugar program. But the money saved by these large sugar users is passed along to the house-



In 1899, Claus Spreckels built the above factory in Salinas, California. The Watsonville factory was dismantled and some of its machinery utilized in the new factory.

wife in the form of relatively lower prices for canned goods, bakery products and other processed foods.

SUGAR SUBSIDIES?

"Sugar beet and sugar cane growers are getting rich on taxpayer financed subsidies." That's a charge leveled by some un-informed journalists and others who take one look at a list of Sugar Act payments and then get their exercise jumping to the wrong conclusion. The truth is, *Sugar Act payments are not subsidies* but rather they are compliance payments granted to sugar beet growers for abiding by the strict controls inherent in the regulatory features of the Federal sugar program.

The compliance payment is part of tax and payment provisions of the Sugar Act. Although they apply to the cane growing areas of Louisiana, Florida, Hawaii, Puerto Rico, and the Virgin Islands, these provisions are best explained by showing how the tax and payments work for the beet sugar industry.

An excise tax on sugar of approximately one-half cent per pound is collected by the Government from the processors of sugar beets. Under terms of the purchase contract the company has with the individual sugar beet farmer, this tax in essence is deducted from the return the farmer receives from the processor for his sugar beets. The money collected through the tax goes into the general fund of the Treasury of the United States.

COMPLIANCE PAYMENT

If a farmer meets all the requirements of the Sugar Act, as planting only his allocated acreage, paying Government specified minimum wages, not hiring child labor, and so on, he receives his compliance payment from the Government. Thus, through the tax the Government collects and withholds part of the income the farmer expects to receive for his sugar beets. This is returned to him only if he meets all the stringent requirements of the Sugar Act.

The exact amount of the conditional payment may be smaller than the deduction in the farmer's returns through collection of the tax. The tax on refined sugar amounts to 0.53 cent a pound (equivalent to 0.5 cent a pound ($10 a ton) on raw value basis) while the rate of conditional payment depends upon how much sugar is produced from the farmer's crop of sugar beets or sugar cane. The payment rate declines as the quantity of commercially recoverable sugar the grower produces increases. The basis rate of 0.8 cent a pound of sugar (raw value) or $16 a ton is paid on the first 350 short tons of sugar produced. This rate is reduced progressively to a minimum of 0.3 cent a pound, or $6 a ton, on all sugar produced in excess of 30,000 tons. Thus the larger grower receives a smaller payment per unit of sugar produced than the smaller grower when the compliance payment is calculated.

The tax is collected on imported sugar as well as on domestic sugar, while the compliance payments are made only to domestic producers.

GOVERNMENT PROFIT

When it is all said and done, the operation of the Federal Sugar Program actually provides a source of revenue for the Federal Government. This revenue coming after all costs of the Program including administrative costs, and compliance payments have been deducted.

The tax payment arrangement now puts approximately 30 million dollars annually into the general fund of the Treasury as profit. Since its inception in 1935, income to the Government in the form of taxes on sugar in excess of payments amounts to over 611 million dollars.

The Sugar Act is up for renewal in 1972. A continuance of the program basically as is would be an asset to the grower, the processor, the consumer, and the country. You are strongly urged to contact your Congressman to voice your support of our national sugar program.

Sugarbeet harvesting crew on the Edward H. Brecht Ranch near Visalia in 1916.

VISALIA AND CORCORAN

A Lesson From History

IN THE SPRING of 1905 a group of investors formed the Pacific Sugar Company and began the construction of a beet sugar manufacturing plant at Visalia, California. Machinery for the wooden framed factory was brought in from Rome, New York, and St. Louis Park, Minnesota. The initial daily slicing capacity of this factory was 400 tons of sugar beets.

Some 2,000 acres of sugar beets were planted in the winter of 1905 to supply beets for the factory's first run. Due to the destruction of some of the plant's machinery and material in the San Francisco earthquake and fire and lack of sufficient labor during construction of the plant, it was not completed until September, 1906. Consequently, all the sugar beets that had been harvested and delivered in the late Spring of 1906, could not be utilized by the factory for sugar production. Some of the beets were sliced and the pulp used for livestock feed but at a considerable loss to the company.

A small tonnage of beets were held in the ground until early summer though and the factory was able to make some white sugar from them and a considerable quantity of molasses which was stored for use during the following season.

Early in 1907 Mr. W. J. Wayte, an experienced sugarhouse engineer and Pacific stockholder, was made plant superintendent. According to company records he put the factory's machinery and equipment in a high state of efficiency and after a preliminary testing of the plant on July 26, 1907, began making high-grade white sugar. The first five carloads of Visalia produced beet sugar were shipped to the Los Angeles market in August of that same year.

In 1905 Pacific Sugar Company and a Mr. H. C. Merritt of Pasadena, California formed the Tagus Ranch Company and purchased what is now known as the Tagus Ranch for 33 dollars per acre.

(Continued on page 19)

The 1969 Honor Roll

We proudly publish the names of growers whose 1969 sugarbeet crop exceeded 25 tons per acre. The Honor Roll covers all of Spreckels Sugar Company's California districts. The names are listed in descending order of pounds of sugar per acre.

DISTRICT I, IMPERIAL VALLEY

Grower	Acres Harvested	Tons Per Acre	Lbs. Sugar Per Acre
J. P. McKim	77	38.74	12,393
Raymond O'Connell & Son	152	34.76	11,367
M. A. Maraccini	68	35.33	11,181
Adamek & Dessert	61	31.24	10,652
C. S. Sandhu	67	29.11	10,635
Homer Slater	255	29.00	10,445
Henrietta Farms	33	30.38	10,312
Darwin D. Cohee	70	29.66	10,213
Harry Schmidt	35	30.03	9,993
Fleming & Jack	50	29.46	9,942
Fifield Land Co.	139	28.61	9,787
Paul Preciado, Jr.	15	30.48	9,763
Jack Kappeler	83	28.54	9,721
Bill Moore Ranch	221	30.95	9,592
Fifield Farms	51	26.33	9,569
Bill Wiest	141	28.53	9,561
Neil Fifield Co.	140	28.05	9,519
Charles K. Corfman	64	28.61	9,454
Vessey & Co., Inc	123	28.63	9,395
Henrietta Farms	213	27.78	9,319
Harry Schmidt	33	31.29	9,307
Paul Preciado, Jr.	87	28.04	9,294
John H. Borchard	95	28.25	9,275
Ed Chew	68	25.92	9,236
Mamer Ranches	47	27.03	9,219
Lerno Bros.	68	28.05	9,184
Lerno Bros.	64	28.74	9,171
Neil Fifield Co.	139	30.90	9,114
Brock Ranches	55	27.35	9,112
3-D Cattle Co., Inc.	33	26.66	9,024
3-D Cattle Co., Inc.	119	27.22	8,934
Fifield Farms	122	25.93	8,676
Deol & Sunghera	34	27.93	8,950
Davis Beauchamp	68	26.37	8,579
James A. Taylor	155	28.18	8,506
Brock Ranches	54	26.35	8,503
Brock Ranches	142	25.53	8,450
Fifield Farms	190	28.50	8,377
Harry Schmidt	68	27.22	8,362
Fritz Kuhn, Jr.	100	26.28	8,284
Neil Fifield Co.	126	27.05	7,937

DISTRICT I, SPRECKELS

Grower	Acres Harvested	Tons Per Acre	Lbs. Sugar Per Acre
S. Braga & Sons	46	44.88	14,400
John Gardoni	18	43.33	13,835
Valley Packing Co.	30	42.40	13,116
Merrill Farms	61	41.67	12,751
Latasa Bros.	120	39.05	12,472
Jim Fanoe & Son	29	39.74	12,177
Latasa Bros.	71	36.85	11,930
L. & J. Farms	14	42.72	11,783
J. M. Thorne	23	38.79	11,654
Wm. Whitney	21	40.64	11,648
Arthur F. Blomquist	61	37.37	11,530
J. A. Ferrasci	24	46.95	11,517
T. O. Tomasello Co.	27	37.63	11,457
Jim L. Fultz	23	35.58	11,416
Wm. Whitney	55	37.58	11,089
John O. Anderson	100	38.54	11,067
Emil C. Meyer	43	38.82	10,964
Richard Morgantini	64	33.68	10,896
Soilserv, Inc.	1	35.14	10,855
Consolidated Growers, Inc.	22	35.67	10,806
Latasa Bros.	52	34.73	10,670
James H. Watson	11	32.77	10,654
Leo A. & Robert L. Meyer	38	34.48	10,541
California Coastal Farms	75	33.00	10,513
Robert J. Thorp	19	36.26	10,432
E. John Nielson Co.	16	28.17	10,248
B. E. Johnson	15	35.00	10,218
W. M. Sullivan	36	34.74	10,158
L. & J. Farms	23	34.37	10,050
H. E. & L. Borzini	61	34.28	10,000
Fanoe Bros. & Sons	290	30.45	9,983
John Oreggia & Co.	24	32.12	9,983
Owen T. Rice & Son	100	32.14	9,976
Pisoni Farms	19	34.84	9,975
Nagareda Bros.	40	28.94	9,913
Little & Thorp	27	32.13	9,876
Tom Hambey & Son	42	34.36	9,825
J. J. Crosetti	59	33.19	9,764
Pryor Farms	65	32.06	9,716
Elmer Abeloe, Jr.	-19	30.36	9,698
California Coastal Farms Inc.	15	31.53	9,608
W. E. Foletta	10	32.85	9,562
Wm. Whitney	129	33.14	9,557
Franscioni & Griva Corp.	44	31.92	9,532
Guidotti Bros.	32	33.08	9,479
Fanoe Bros. & Sons	84	28.65	9,447
Isao Ogawa	18	27.79	9,430
Elwood Fontes	21	30.31	9,405
W. W. Johnson & Son	53	29.19	9,395
Allan W. Johnson	40	29.78	9,378
L. C. H. Company	28	30.71	9,373
Walter Herbert	43	32.13	9,360
Turri Bros.	32	32.19	9,326
California Coastal Farms, Inc.	100	36.27	9,318
F. J. Martin	16	32.99	9,286
Joe C. Gonzales	3	31.03	9,267
Thomas B. Burnett	21	32.12	9,265
H. & E. Chrisensen	16	27.15	9,248
Growers Produce Dispatch	21	34.95	9,227
Consolidated Growers, Inc.	20	31.93	9,162
A. Bassetti & Sons	23	30.89	9,046
Bruce Church, Inc.	86	33.68	8,999
Obata Bros.	66	31.78	8,973
Robert A. Smith	28	32.37	8,934
Martinus & Martinus	80	30.10	8,866
Wm. Whitney	106	30.06	8,862
Franscioni & Co.	15	28.52	8,839

(Continued on next page)

DISTRICT I, SALINAS—continued

Grower	Acres Harvested	Tons Per Acre	Lbs. Sugar Per Acre
D'Arrigo Bros. Co. of Calif.	78	27.90	8,832
J. A. Ferrasci	24	30.58	8,774
W. W. Johnson & Son	101	32.03	8,774
Beet Sugar Development Foundation	10	28.92	8,761
Tony & Larry Homen	28	31.26	8,754
Frank Taylor	68	29.22	8,724
B. E. Johnson	18	29.86	8,716
Dave Wynne Farms, Inc.	84	28.33	8,691
Treno Romo	36	29.24	8,688
John & Bob Corda, Jr.	16	32.29	8,683
Emil C. Meyer	84	28.51	8,628
Joseph B. Silva & Sons	24	27.42	8,607
H. & E. Christensen	22	27.57	8,604
John & Bob Corda, Jr.	2	28.53	8,572
H. E. Widemann	43	25.83	8,512
Michael K. Reed	27	32.54	8,506
William D. Crinklaw	122	28.56	8,394
Freshpict Food, Inc.	41	26.00	8,392
Bennie Yamane	41	31.63	8,359
Wm. Whitney	49	29.84	8,334
Rianda Bros.	28	28.48	8,263
Martinus & Martinus	39	27.84	8,259
John Guidotti	3	27.47	8,258
James H. Watson	29	27.09	8,226
Martinus & Martinus	60	27.16	8,220
L. & J. Farms	16	28.16	8,212
Anselmo Pura & Son	7	27.84	8,195
Robert Heess	18	26.46	8,182
Wiley Farms, Inc.	52	26.11	8,175
Allan W. Johnson	37	28.43	8,174
Peter A. Stolich Co., Inc.	54	29.23	8,084
Tom Da Rosa	36	27.12	8,043
Bennie Yamane	33	30.42	8,043
Frank Taylor	56	29.74	7,937
Earl Fiscalini	13	28.76	7,878
Botelho Bros.	32	28.52	7,866
California Coastal Farms	93	26.13	7,860
Peter A. Stolich Co., Inc.	20	27.35	7,828
Jack A. Hayes	412	27.31	7,763
California Land & Cattle Co.	120	25.68	7,651
Michael K. Reed	26	29.24	7,626
Jim Fanoe & Son	161	25.51	7,588
Michael K. Reed	17	25.06	7,530
Admiral Packing Co.	39	25.10	7,411
H. & C. Overfelt	78	26.41	7,396
Hanson & Fowler	44	27.25	7,361
Merit Packing Co.	11	28.68	7,292
Merrill Farms	15	25.41	7,174
Arrow Lettuce Co.	19	25.77	6,991
Joe P. Alves	19	28.39	6,827
Merrill Farms	26	29.63	6,661
Masapi Eto	37	25.24	6,289
Tognetti Bros.	26	25.22	6,098
Maynard H. Frudden	72	25.32	6,069

DISTRICT II, MANTECA

Grower	Acres Harvested	Tons Per Acre	Lbs. Sugar Per Acre
Consolidated Growers	39	43.40	13,447
Joe Toste, Jr.	45	36.01	12,461
Buzz Lally	40	41.48	12,231
Fumio Nishida	10	43.72	12,098
Consolidated Growers	26	43.73	12,076
Louis Casale	240	36.24	11,551
R. & J. Dondero	36	32.12	11,339
Ted Baskette	9	35.08	11,309
R. & J. Dondero	35	32.85	11,268
Westing Farms	71	32.70	11,203
Enrico Pizzi	12	35.87	11,172
Joe Toste, Jr.	58	38.82	11,115
Calcagno Farms	26	40.58	11,001
C. A. Nilsson	79	31.71	10,970
Alvarez Bros.	109	35.81	10,945
John L. Miller	100	33.40	10,837
Fumio Nishida	26	37.93	10,719
George B. Lagorio	67	30.71	10,645
Arravan Farms, Inc.	26	46.44	10.625
Westing Farms	90	29.86	10,508
R. & J. Dondero	38	30.85	10,464
Tanaka Farms	135	29.93	10,445
Enos & Woodward	48	29.75	10,442
Robertson & Sons	74	33.15	10,398
Alvarez Bros.	25	33.78	10,354
Joseph L. Nomellini	83	29.93	10,291
J. & R. Solari	38	31.57	10,168
Raymond Motoike	25	31.37	10,132
Frank & Steve Solari, Jr.	70	30.73	10,003
Giannecchini Bros.	85	28.18	9,860
Larry Pellegri	50	35.89	9,835
George B. Lagorio	74	28.91	9,784
Robert Norman	187	27.71	9,767
Jory Bros.	114	30.04	9,723
Jack Kimoto	141	28.04	9,693
Calvagno Farms	65	38.13	9,682
Murata Bros.	38	28.16	9,601
Melvin S. Silveira	137	28.35	9,593
Hanson & Barkley	74	28.27	9,552
Robert Batch	17	28.71	9,544
Enos & Woodward	45	25.83	9,543
E. Holck & Son Farms	89	28.60	9,506
C. A. Nilsson	39	26.90	9,460
Alan Giovonnoni	73	33.71	9,452
Brocchini Bros.	179	28.10	9,403
Ronald L. Davis	19	31.08	9,369
Geo. Tomura	45	26.88	9,338
A. Togninali	75	26.18	9,306
Roy Nishida	39	28.74	9,267
Merlin Miller	150	26.32	9,158
Dwayne Petz	55	26.50	9,149
Fujinaka, Keiji	59	27.87	9,122
Ralph Panella	97	26.41	9,080
Westing Farms	120	27.38	9,041
E. Holck & Son Farms	21	31.43	9,037
Stuart R. Clever	62	27,21	9,030
Geo. A. Sanguinetti	45	27.65	8,980
John Kautz	166	26.94	8,951
Enos & Woodward	31	26.15	8,908
Harold Aoyama	53	25.60	8,908
R. & J. Dondero	47	25.40	8,868
Shiba Farms	175	26.21	8,856
Peter R. Ohm	78	32.55	8,824
Ed Thoming & Sons	78	28.08	8,537
Brocchini Bros.	75	27.15	8,431
Mrs. Gertrude Pelucca	25	27.27	8,414
Honda Bros.	45	25.22	8,396
Joe Toste, Jr.	74	25.52	8,388
Consolidated Growers	32	27.41	8,376
Raymond Muller	45	35.59	8,305
Keith Carlson	18	26.82	8,264
Richard C. Medeiros	110	26.21	8,235
San Julian Bros. & Zabalza	48	27.44	8,235
Tokuyoshi Bros.	41	29.44	8,233
Irvin Muller	53	29.49	8,195
Ishida Bros.	21	26.62	8,152
Jimmie Nishida	35	30.82	8,150
Melvin S. Silveira	57	27.02	8,137
Bill Burgess	50	25.56	8,136
Mizuno Farms	101	27.01	8,132
Robertson & Sons	89	25.83	8,073
Sakakura Farms	49	26.22	8,055
R. E. Thorsen	64	28.84	7,969
Tony J. Pereira	39	27.74	7,968
R. E. Albertson	84	25.50	7,930
E. Holck & Son Farms	39	25.48	7,908
Lester Rodgers	141	26.71	7,870
Robertson & Sons	34	27.77	7,864
John J. Carvalho	25	29.99	7,843
Manuel Silva, Jr.	26	25.84	7,833
Irvin Muller	35	31.53	7,817
George Silva	79	26.93	7,771
Arravan Farms, Inc.	89	32.47	7,723
Grant & Wilson	98	26.79	7,676
J. & R. Bogetti, Inc.	23	26.94	7,661
Tony Castanho, Jr.	61	26.17	7,349
Joe Sabbatini	137	26.67	7,348
Murata Bros.	83	25.57	7,232
Raymond Muller	35	27.61	7,210
Raymond Muller	32	29.68	7,208
Ernest F. Nunes	40	29.02	7,187
Morey Egusa	11	28.22	7,163
Calcagno Farms	85	27.95	7,155
Van Groningen Bros.	30	28.76	7,143
Calcagno Farms	50	27.19	7,067
Van Groningen Bros.	89	25.74	6,933
Takenori Bros.	113	25.70	6,850
Dennis W. Leary	72	26.31	6,848
John & William Vignolo	225	24.95	6,750
Philip Martin, Jr.	52	26.73	6,732
M. C. Thorkelson & Co.	85	26.07	6,689
Morey Egusa	60	25.61	6,422
Herman & Ronald Ohm	144	25.19	6,237

1969 wasn't an exceptional year for sugarbeets but very good yields were attained by some growers in all districts.

DISTRICT III, WOODLAND

Grower	Acres Harvested	Tons Per Acre	Lbs. Sugar Per Acre
Emmett Heidrick	47	37.29	12,217
Paul Stephens & Son	70	34.78	11,537
John Lamont	76	34.50	11,218
M. B. Avilla	111	33.11	10,921
J. R. Phillips	41	32.44	10,864
M. B. Avilla	66	29.97	10,610
Holdener & Wiegand	73	33.16	10,299
Antonio D. Fortes	51	29.43	10,271
E. L. Wallace & Sons	160	32.95	10,104
Solano Farms, Inc.	71	30.26	9,921
Wallace Bros.	159	32.52	9,897
Anderson Bros.	38	31.18	9,892
Alonzo Bros.	57	29.98	9,789
Eugene G. Cain	26	31.46	9,699
C. M. Ordonez	62	27.65	9,636
Nishikawa, Bros.	156	31.65	9,499
Alvernaz Farms, Inc.	23	32.84	9,391
Meek & LeMaitre	116	28.79	9,329
Hatanaka Bros.	121	26.89	9,316
Eugene G. Cain	30	26.81	9,171
Meek & LeMaitre, nc.	61	28.73	9,154
Holdener & Wiegand	113	28.53	9,050
Yoloma Farms	92	27.54	9,041
Winston R. Peterson	41	28.42	9,018
Hatanaka Bros.	119	25.55	8,979
David L. Rooney	30	27.62	8,951
L. H. Barth & Sons	68	25.04	8,880
Joe Gnoss, Jr.	77	25.62	8,865
Jess Jerome Jones	44	31.39	8,856
Wm. E. Duncan	58	27.34	8,812
Elmer Tiahrt	66	25.57	8,703
E. M. Ullrich	100	25.37	8,703
Giannoni Bros.	207	28.57	8,681
Edgar Everett & Son Farms	74	29.40	8,662
Schroeder Bros.	36	27.84	8,653
Schroeder Bros.	32	26.07	8,631
Joe Lopes, Jr.	230	25.07	8,588
Timothy Bros. & Breckenridge	12	27.95	8,576
Roger Moore	105	30.27	8,519
A. W. Cruichshank, Jr.	35	25.21	8,492
Dela Torres Bros.	35	29.18	8,436
Roth Bros.	42	28.50	8,422
Joe Lopes, Jr.	183	28.78	8,361
Winston R. Peterson	40	25.75	8,242
Oji Bros. Farm, Inc.	182	25.56	8,200
Alvernaz Farms, Inc.	17	28.09	8,199
Alvernaz Farms, Inc.	59	27.66	8,164
Manuel Bastiao	35	29.04	7,986
Lloyd M. Eveland	96	25.55	7,840
Catherine Strehle & Sons	59	29.56	7,678
Manuel Bastiao	34	26.75	7,614
Robert Rooney, Jr.	56	27.81	7,558
Oji Bros. Farm, Inc.	233	26.35	7,468
Robert G. Arens	147	28.13	7,371
Chesini Bros.	75	25.68	7,369
Dan G. Best	153	31.03	7,355
James A. Walker & Sons	76	26.48	7,233
Morita Bros.	72	26.18	7,231
William H. Roth	62	27.85	7,042
Clark Davis	56	25.10	7,004
K. Matsumoto & Sons	23	29.00	6,958
John B. Anderson	97	26.35	6,935
Frates & Shimada	137	25.22	6,638
Bernie Gorman, Jr.	36	27.15	6,351
Schneider, Fricke & Schneider	75	26.45	5,969

DISTRICT IV, MENDOTA

Grower	Acres Harvested	Tons Per Acre	Lbs. Sugar Per Acre
Gary George	55	38.01	12,922
Santa Rita Ranch Co.	293	34.51	11,539
George Andrew	51	39.69	11,094
Kenneth McClanahan	34	35.42	10,687
Hanson & Fortune	60	33.09	10,297
George Andrew	59	35.46	9,978
Markarian Farms	36	39.79	9,934
George Andrew	56	35.78	9,866
Coalinga School Farm	6	37.59	9,809
Kenneth McClanahan	41	32.14	9,798
Timco	722	28.41	9,488
Wm Fahey	141	27.46	9,389
Couture Farms	110	35.39	9,155
Frank T. Cardoza	36	31.55	9,147
Bonanza Farm	79	29.58	9,137
Triple J Farms, Inc.	32	30.48	9,098
Sanders & Sanders	157	33.84	9,068
Vernon Porter	131	27.77	9,033
Paul W. Demkey	7	35.07	9,014
W. R Greenlee Farming	66	33.41	8,992
Pilibos Bros., Inc.	22	32.48	8,971
Roberts Teicheira	84	30.53	8,925
Kern County Land Co.	101	35.25	8,882
Paul W. Demkey	37	32.87	8,847
Harold J. O'Banion	199	25.82	8,810
Rancho Trio	63	27.02	8,751
W. L. Simmons	67	31.48	8,632
Henson & Landers	77	32.38	8,630
Russell Terry	42	36.15	8,597
Vernon Porter	107	25.34	8,594
Bonanza Farm	145	27.34	8,545
O'Banion Ranches	66	26.74	8,510
Hammonds Ranch, Inc.	146	29.27	8,504
Sunset Ranch	147	36.57	8,490
Kern County Land Co.	88	32.01	8,473
Rainbow Ranch, Inc.	130	31.13	8,468
Barlow Farms	38	32.34	8,394
Marvin Lane	66	33.91	8,331
Crettol Farms	64	30.92	8,329
Curtis Hair & Sons	44	31.74	8,273
Bonanza Farm	71	28.17	8,254
Ralph Forrest	54	34.23	8,253
Jerry Ralls	152	25.73	8,247
Fredlo Farms	59	30.85	8,241
Curtis Hair & Sons	29	31.28	8,240
Jack G. Thomson	72	30.69	8,221
Giffen, Inc.	312	32.23	8,150
Sanders & Sanders	79	26.79	8,102
Henson & Landers	22	25.83	8,101
Jake Kroeker Sons	21	34.37	8,085
Mason Snow	66	28.22	8,085
Wm E. Glotz	24	33.34	7,986
Russel Terry	15	36.29	7,974
A. H. Wegis & Sons	33	30.06	7,965
Rancho Trio	51	25.22	7,964
Kern County Land Co.	104	29.32	7,926
Cerro Bros.	73	32.57	7,905
R. H. Garlow Farms	24	30.31	7,892
McKittrick Ranch, Inc.	225	30.45	7,857
J. Howard Porter	39	32.02	7,811
S. E. Brown	44	30.07	7,799
Roy Henson & Sons	58	30.56	7,753
Mason Snow	47	28.20	7,750
Fanucchi Bros.	71	25.67	7,730
Marvin Lane	54	30.10	7,708
Couture Farms	75	31.85	7,694
Giffen, Inc.	303	31.40	7,685
Kern County Land Co.	148	29.33	7,680
Giffen, Inc.	147	29.67	7,665
Wm E. Glotz	36	30.77	7,658
W. B. Camp & Son	82	28.19	7,634
Pilibos Bros., Inc.	73	28.42	7,621
H. & H. Farms, Inc.	43	26.79	7,559
J. C. & H. H. Lewis	65	29.62	7,508
Houchin Bros, Farming Co., Inc.	94	32.56	7,489
Sherman Cave	45	27.61	7,466
J. Howard Porter	35	28.42	7,439
Joe Freitas, Jr.	40	28.67	7,427
Giffen, Inc.	93	30.81	7,383
Schramm Ranches, Inc.	45	25.70	7,379
G. E. Paxton	15	34.03	7,358
Milo Jacobsen	24	30.18	7,311
James W. Kalpakoff	39	30.09	7,308
Houchin Bros. Farming Co., Inc.	160	30.39	7,246
Giffen, Inc.	142	28.07	7,185
Bob Cauzzua	200	26.21	7,181
Crettol Farms	38	27.24	7,164
Ralph Forrest	50	32.11	7,137
E. O. Mitchell, Inc.	54	29.34	7,127
Cauzza & Mitchell	72	25.37	7,125
Barnard Bros.	41	25.33	7,100
Hugh S. Jewett	84	27.38	7,096
C. E. & R. B. Klepper	179	26.35	7,093
Kern County Land Co.	89	29.84	7,077
Double L Farms	168	25.17	7,048
Costerisan Farms	126	30.06	7,016
McKittrick Ranch, Inc.	83	30.48	7,014
Giffen, Inc.	149	27.76	7,006
Martin E. Mason	36	28.18	7,002
Banducci Farming Co., Inc.	157	27.62	6,932
W. M. & D. L. Colson	21	25.84	6,904
Antongiovanni Bros.	69	28.87	6,890
Kern County Land Co.	216	26.17	6,851
George Andrew	51	25.55	6,802
Kern County Land Co.	27	25.62	6,773
Giffen, Inc.	148	29.46	6,768
J. Howard Porter	32	26,39	6,766
Tracy Ranch, nc.	74	28.61	6,734
Frick Bros.	240	26.82	6,723
Parsons Ranch	63	28.31	6,680
Kern County Land Co.	104	25.46	6,651
Palm Farms, Inc.	335	27.64	6,643
Sam & D. M. Biancucci	73	26.99	6,625
Tracy Ranch, Inc.	55	27.22	6,566
Joe G. Fanucchi & Sons	76	27.25	6,561
Giffen, Inc.	165	27.50	6,529
Giffen, Inc.	126	27.01	6,468
W. M. & D. L. Colson	36	26.93	6,462
Markarian Farms	37	25.28	6,453
Ted J. Gromala	41	27.08	6,431
Tracy Ranch, Inc.	75	26.64	6,411
Houchin Bros. Farming Co., Inc.	168	26.07	6,411
Tracy Ranch, Inc.	75	25.98	6,338
Seibert Farms	71	25.09	6,332
G. P. Orisio	41	25.33	6,322
McCarthy Bros.	6	25.49	6,305
Santiaga Ranch	302	26.48	6,295
Giffen, Inc.	368	25.63	6,292
Newhall Land & Farming Co./Burrel Ranch	48	25.45	6,271
Fredlo Farms	154	29.09	6,271
Vignolo Farms	80	25.50	6,269
James Pryse	53	29.82	6,264
Jake Kroeker Sons	58	26.72	6,228
Sam & D. M. Biancucci	73	28.85	6,197
W. B. Camp & Son	40	25.07	6,192
Estrella Farms	33	27.46	6,056
Tracy Ranch, Inc.	71	25.41	6,056
Giffen, Inc.	132	29.91	6,031
Giffen, Inc.	227	25.57	6,025
Clarklind Farms	52	25.00	5,910
Jacob Ryser	7	25.03	5,604
Wallace Reimer	19	29.19	5,603
Giffen, Inc.	223	25.09	5,413
Fredlo Farms	24	25.66	5,057
Giffen, Inc.	156	26.25	5,016

Tagus Ranch headquarters, Visalia, California, 1907. Note the sugar-beet cultivating equipment in foreground.

Sugarbeets were hauled from the Tagus Ranch by 10 mule teams pulling two wagons. Each wagon held 5 to 5½ tons of beets.

The following year the company secured the services of Mr. Ernest Brecht as superintendent of the ranch. Mr. Brecht was an experienced sugar beet culturist having raised beets in his native Germany and for the American Sugar Company on the Patterson Ranch near Oxnard.

At the time of purchase the Tagus Ranch consisted of 2800 acres of dry farmed grain, native grasses, and an abundance of Oak trees and a few buildings. In 1907, Mr. Brecht supervised the development of enough land to plant 500 acres of sugar beets. The following year 1000 acres were planted to sugar beets and at least 500 acres were added each year until the ranch was fully developed. By 1908 in excess of 2000 acres of sugar beets were raised annually on this ranch.

In 1907 the principals of Pacific Sugar Company formed a new company, Pacific Sugar Corporation. The new corporation absorbed all functions and properties of the former company.

CORCORAN FACTORY

With expansion in mind, the new company announced the construction of its second factory in Corcoran, California. The land for the factory site was donated to Pacific Sugar Corporation by the Security Land and Loan Company which projected the town of Corcoran. The site consisted of 145 acres, 40 acres of which was part of the townsite and the remainder of which was contiguous to and just outside the city limits.

In 1908 the corporation erected an all concrete building in Corcoran to house the machinery for the new factory. The machinery came from Crockett, California and when the factory was completed it was capable of slicing 600 tons of sugar beets per day.

In addition to the factory site at Corcoran, Pacific Sugar Corporation also purchased 1000 acres of land at nearby Angiola. This ranch was to be used to raise sugar beets for the Corcoran plant in addition to those raised by independent growers in the area.

Also, interests closely allied with the Pacific Sugar Corporation purchased the Bliss Ranch which lies just east of the Tagus Ranch. This ranch contained 2000 acres and was situated within three miles of the Visalia plant.

The Bliss ranch was acquired expressly to raise sugar beets for the Visalia plant. The first year of production on the ranch saw some 75 acres of sugar beets raised with such promising results that in the following year, 1908, 1000 acres were planted.

Thus Pacific Sugar Corporation had approximately 6,000 acres of land, the Tagus, Bliss, and Angiola ranches; available for the raising of sugar beets. The company secured these properties to insure enough beets to run both factories profitably even if farmers in the area planted no acreage at all.

Some of the experiences in raising sugar beets in the Visalia area are aptly described in an information booklet put out by the Pacific Sugar Company in August, 1907 entitled "The Pacific Sugar Corporation and Its Operations in the San Joaquin Valley."

"While, before the advent into Tulare County of the Pacific Sugar Company, spasmodic experimentations with sugar beets had been made, resulting in splendid promise of success, yet, theretofore, no crop had been sown for the purpose of manufacturing sugar. However, in the winter and spring of 1905-06 about 2,000 acres were sown in and about Visalia, and although few, if any, of those who did the sowing had ever before raised sugar beets (on which account there were some failures), yet, in the circumstances, the results attained by the successful ones were phenomenal, both as to the production per acre, and the sugar content.

(Continued on page 20)

In 1917, Edward H. Brecht purchased a Best tracklayer to haul his beets to the Visalia factory. Mr. Brecht (right) and a ranch employee are pictured above with the tracklayer and three loads of sugarbeets on the unloading ramp at the Visalia factory.

Some of the beets were planted in low places susceptible to flooding, and, on account of the excessive rainfall of the winter of 1905-06, many of these beets were under water for a considerable time, causing a very great deterioration in quality and sugar content; other beets were planted late and in dry land so that they made no substantial growth after the advent of summer, and for the same reason were deficient in tonnage and in saccharine matter. Including in the analyses beets thus injured by water on the one hand, and by lack of moisture consequent on too late planting on the other hand, nevertheless the average sugar content of all beets thus analyzed was above 18 percent, the better beets, including those not injured by water, nor by too late planting, running from 18 to 26 percent; also the beet fields that received the best care ranged from 18 to 21 tons per acre. The company is now paying $5 per ton for beets, which would produce a gross income of $90 per acre, for a yield of 18 tons per acre. The maximum amount that might be spent in the sowing, care, and harvesting of the beets, providing all work were hired, would not exceed $30 per acre, leaving a net income of $60 per acre, a result which is easy of attainment on good land, if we have proper industry and intelligent culture of the beets.

The foregoing results were achieved by men who had not previously raised sugar beets. On the other hand, failures are recorded in the cases of many people who did not give proper, or any, care or attention to their crops, or who sowed them on unsuitable lands. Hereafter the factory will not knowingly permit beets to be sowed on lands that are not suitable, nor by persons who have shown a lack of industry and care. Failure in the bringing in of a successful crop is as detrimental to the factory as it is unprofitable to the farmer. By some esoteric process of reasoning, the farmer who makes a failure conceives the factory to be at fault, and forthwith becomes an enemy of the industry. Hence, as before suggested, the factory has determined to be as careful in the selection of its farmers as, henceforth, it intends to be in the selection of the land to be sown to beets.

Of course, failures occur for reasons that are not reflections on the industry or ability of the farmer; and the farmer having such experiences may be assured of the sympathy and good will of the company, and of its desire to help him to success in renewed and more experienced efforts in beet culture."

Both the Visalia and Corcoran plants operated successfully until 1918. That year a heavy flight of beet leafhoppers infected the beets with curly top virus and virtually wiped out the sugar beet crop. Other curly top susceptible crops were also hit. Only a few beets were processed that year.

In 1919 another curly top epidemic hit the area. Sugar beets withered and dehydrated in the fields. Some growers fenced their fields and sold the beets for cattle feed for $2.50 per acre to avoid a complete disaster. The Visalia and Corcoran factories closed their doors for good in 1919. That very same year the machinery at the Visalia plant was sold and moved to Hooper, Utah. The Corcoran plant remained intact until 1922 when its machinery was sold and moved to Preston Idaho.

EDWARD H. BRECHT

Raising Sugar Beets In The Visalia Area, 1905-1919

The following article is based upon the personal experience of Mr. Edward H. Brecht who was Ranch Superintendent of the Tagus Ranch from 1910-1911.

IN 1905, 15 year old Edward Brecht came to America to join his father on American Sugar Company's Patterson Ranch at Oxnard. He saved up fifty dollars and borrowed another fifty from his brother to purchase boat and train tickets to take him from Hamburg, Germany to New York and then on to California. He left Hamburg on October 13, 1905 and arrived in San Francisco on November 2, 1905. Upon arrival at Oxnard young Edward went to work on the Patterson Ranch for one dollar a day and board.

One of Edward's first jobs was to drive a 10 mule team which required getting up a 4 a.m., harnessing the mules, eating breakfast at 5:30 a.m., and starting to work at 6 a.m. During the winter months it was dark at 6 a.m. so Edward would follow the plow furrow until he found the plow. A break of one hour came at midday for lunch. At 6 p.m. he took the mules to the barn, unharnessed them, had his dinner at 6:30 p.m. and was in bed by 8 p.m.

TAGUS RANCH

In the winter of 1906, Edward's father accepted an offer from Pacific Sugar Company to manage the Tagus Ranch at Visalia. Edward came with his father to the Tagus Ranch in December, 1906. Their immediate task was to prepare 500 acres of ground for sugar beets. This entailed clearing some oak trees, cutting some wild oat hay and plowing the ground. Wages on the ranch were $1.50 per day and board.

One of Edward's first jobs on the Tagus Ranch was to haul building material and implements from Visalia and Tulare to the Ranch. He also helped plant the sugar beets, cultivate them and in June and July harvest them. The beets were hauled to the Visalia factory by 10 mule teams pulling two wagons. Each wagon held about 5 tons of beets and the ranch would deliver eight to ten of the double wagon loads to the factory each day. (See photo page 19).

In 1908 Edward recalls that the balance of the 2800 acre ranch was put under cultivation and the majority of it was planted to sugar beets. A new barn, bunkhouse, and cookhouse were built that year on the main or east camp. A west camp was also built that year along with all the necessary buildings.

In 1909 Pacific Sugar Corporation sent Edward to Corcoran to contract 1000 acres of beets with growers, and to help with the planting, care, and harvest of them. These beets were the first to be processed at the Corcoran plant.

In November, 1909 Mr. H. C. Merritt assumed full ownership of the Tagus Ranch.

In 1910 Edward was sent back to the Tagus Ranch as foreman. In late 1910 his father resigned as superintendent of the Tagus Ranch and returned to Germany. Edward then became superintendent of the ranch.

Prior to 1910 all the work done on the Tagus Ranch was done with animals. Ground preparation consisted of deep plowing, harrowing, and floating. The seed which came from Germany at a cost of 50 cents per pound was planted by a four row horse drawn planter at a rate of eight to ten pounds per acre. Planting took place in November and December and again after the first of the year. Beets were planted during the two periods to spread the harvest out over June and July.

All of the beets were dry-farmed and cultivated with four row horse drawn cultivators. Thinning was done with short handled hoes for $4.00 per acre. The two main pests the ranch had to contend with were gophers and cutworms. In fact the ranch paid a bounty of three cents per gopher tail to help eradicate the pest.

Harvest of the beets usually came in June and July when temperatures started to rise. The ranch would plow or lift the beets themselves. The hand topping, windrowing and loading into wagons was all contracted by the ton.

Yields on the Tagus Ranch averaged about ten tons per acre and eighteen percent sugar. The Bliss Ranch, just to the east of the Tagus Ranch, had a shallower water table and averaged 15 tons per acre and 15 percent sugar. When the warmer temperatures came, beets would hold longer on the Bliss ranch due to the shallower water table. Consequently, beets on the Tagus Ranch were harvested in June and beets on the Bliss ranch were harvested in July.

Pacific Sugar Corporation contracted beets with individual growers for $5.00 per ton. Each load the grower brought into the factory was sampled for sugar content. If the grower averaged better than 15 percent sugar the company paid a premium of 30 cents per ton for each additional percentage point above 15 percent. If less than 15% sugar was attained the company penalized the grower 25 cents per ton for each percentage point below 15 percent.

From 1907 to 1909 all the farm work was done with horses and mules, and during the busy part of the year Pacific Sugar Company had to hire teams. This gave Edward the idea of buying some animals and renting

(Continued on page 23)

Ground Preparation -- 1919

Edward Brecht (first from right) is pictured here with his new Holt tractor in 1919. Plowing was one of the first operations in ground preparation. Others in the picture include Mr. Brecht's son sitting on tractor and two ranch employees.

After the ground was plowed, it was disced and harrowed to break up clods. A four row planter drawn by two mules (see back cover) followed this operation.

them out. He purchased 5 mules for $750 dollars. He paid 75 dollars down and 75 dollars per month. Since he couldn't rent the animals to the company he worked for he put them on a job in Lindsay for 50 cents per mule per day and feed or $2.50 per day for the five mules. This came to $62.50 per month. Edward added $12.50 per month on the rental to meet his monthly payment of 75 dollars.

Edward kept on buying mules and horses until in 1910 he had 30 animals. Edward and Robert Turk who also owned 30 animals went into the land leveling business together. Turk managed the leveling business and Edward stayed on the Tagus Ranch.

In 1911 Edward resigned as Superintendent of the Tagus Ranch to get married and devote full time to his land leveling business. That year he and Mr. Turk took 60 head of horses and mules, 15 Fresno scrapers, feed racks, and cookhouses to Patterson to level land for T. W. Patterson, Manager of the Fresno National Bank. In 1912 they completed the Patterson job and moved to Fresno where they leveled land in the Fig Garden area for J. C. Forkner. In the summer they used some of the mules to haul and combine barley. The barley was hauled to the Visalia Milling Company at Visalia.

In 1913 Edward bought an 80 acre ranch southeast of Visalia, remodeled the house, planted peaches in 1914 and prunes in 1916. He planted sugar beets between the rows and in 1916 raised 28 tons per acre without irrigation. The peach and prune trees were also raised without irrigation. (See photo page 18).

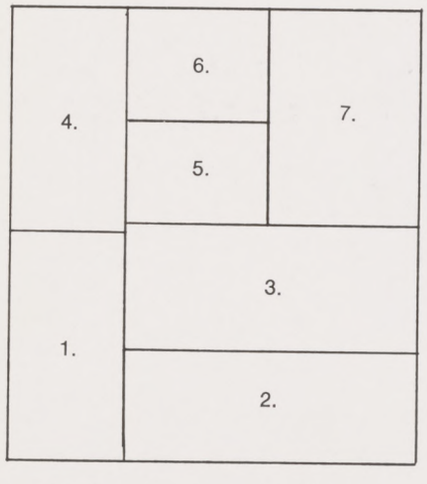
In 1917 Mr. Brecht bought a Best tracklayer to haul sugar beets to the Visalia factory. In 1919 he sold the Best tractor and bought a Holt tractor which he used for farm work, hauling grain to the Visalia Milling Company and renting to Pacific Sugar Corporation.

In 1918 and 1919 Mr. Brecht raised 300 acres of sugar beets. In both years he saw the beets progress very well to a certain stage and then simply wither and dry up when hit with curly top. He didn't harvest a single beet in either year.

EDITOR'S NOTE: After the two factories were shut down in 1919, Mr. Brecht continued to farm until 1930 when he went to work for the Rosenberg Bros. Co. in Visalia. In 1954 he went to work for the Bonner Packing Company in Fresno where he remained until his retirement. The 80 year young Brechts reside in Fresno. My deepest thanks to them for the material for this article.

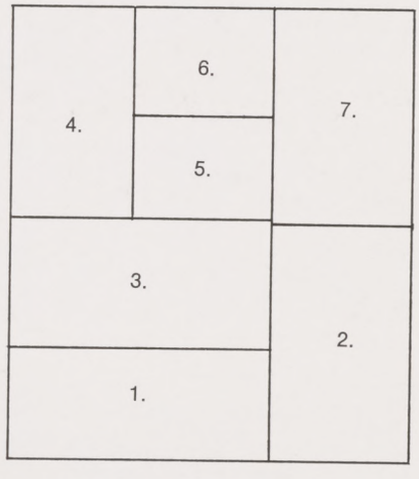
COVER EXPLANATION

FRONT COVER — NOW

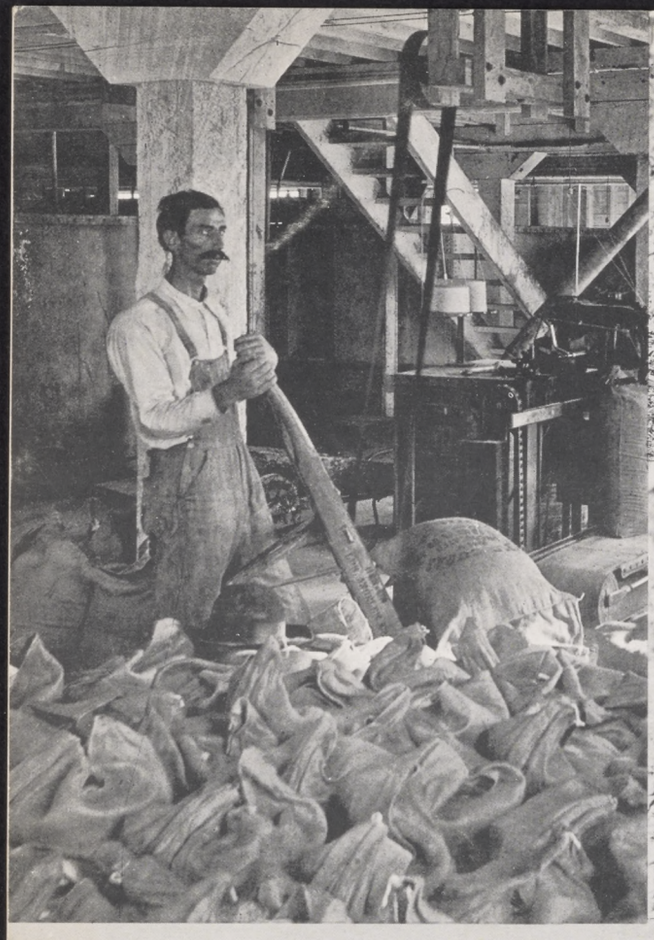


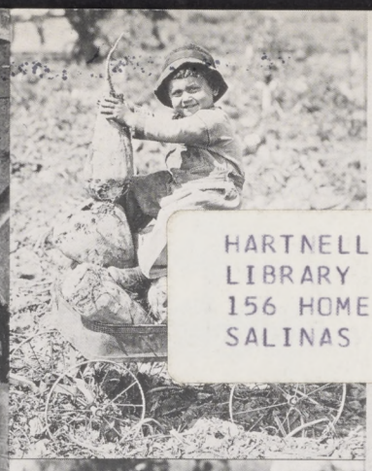
1. Louie Borrego - Employee on Pilibos Bros. Ranch - Mendota
2. Pam, Russell and Adrienne Nordstrom
3. George Pearce truck unloading at Factory IV, Mendota
4. Harvest - Westside of San Joaquin Valley
5. Flags flying at Factory II, Manteca
6. Central Control - Factory IV, Mendota
7. Liquid Sugar Truck, Factory V, Arizona

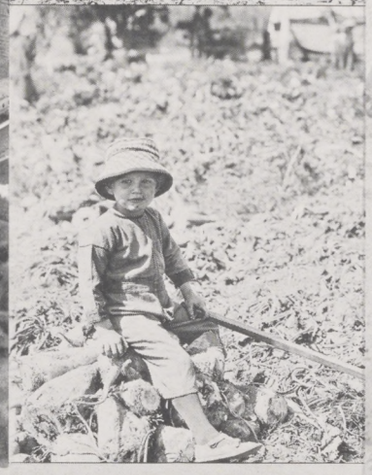
BACK COVER — THEN

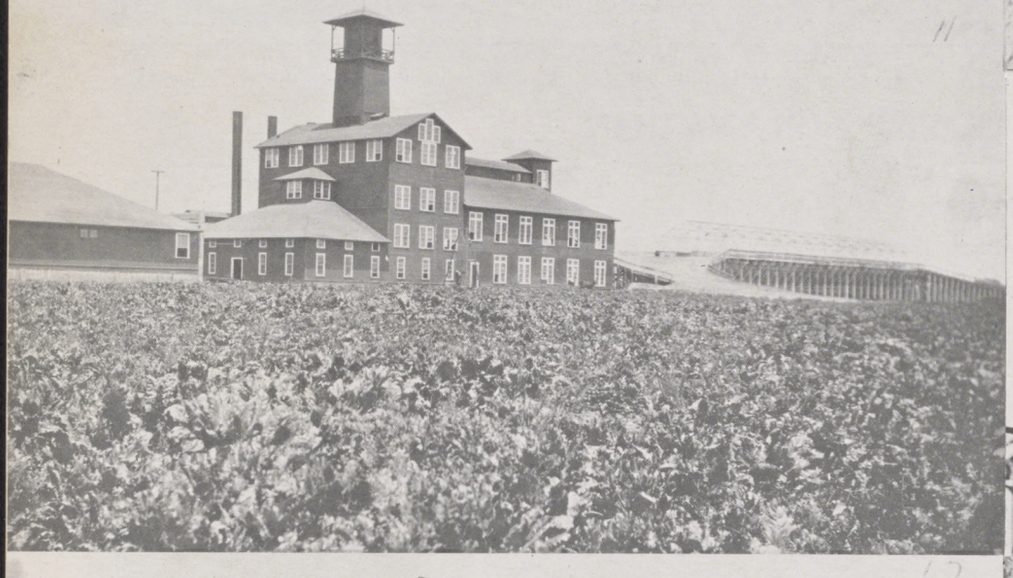


1. Unloading beets - Tagus siding 1909.
2. Edward H. Brecht - 1916.
3. Visalia factory - 1907.
4. Bagging sugar - Visalia factory 1907.
5. Eddy Brecht (son of Edward) 1917.
6. Huelett Brecht (son of Edward) 1917.
7. Edward Brecht planting sugarbeets on the Tagus Ranch, 1907.



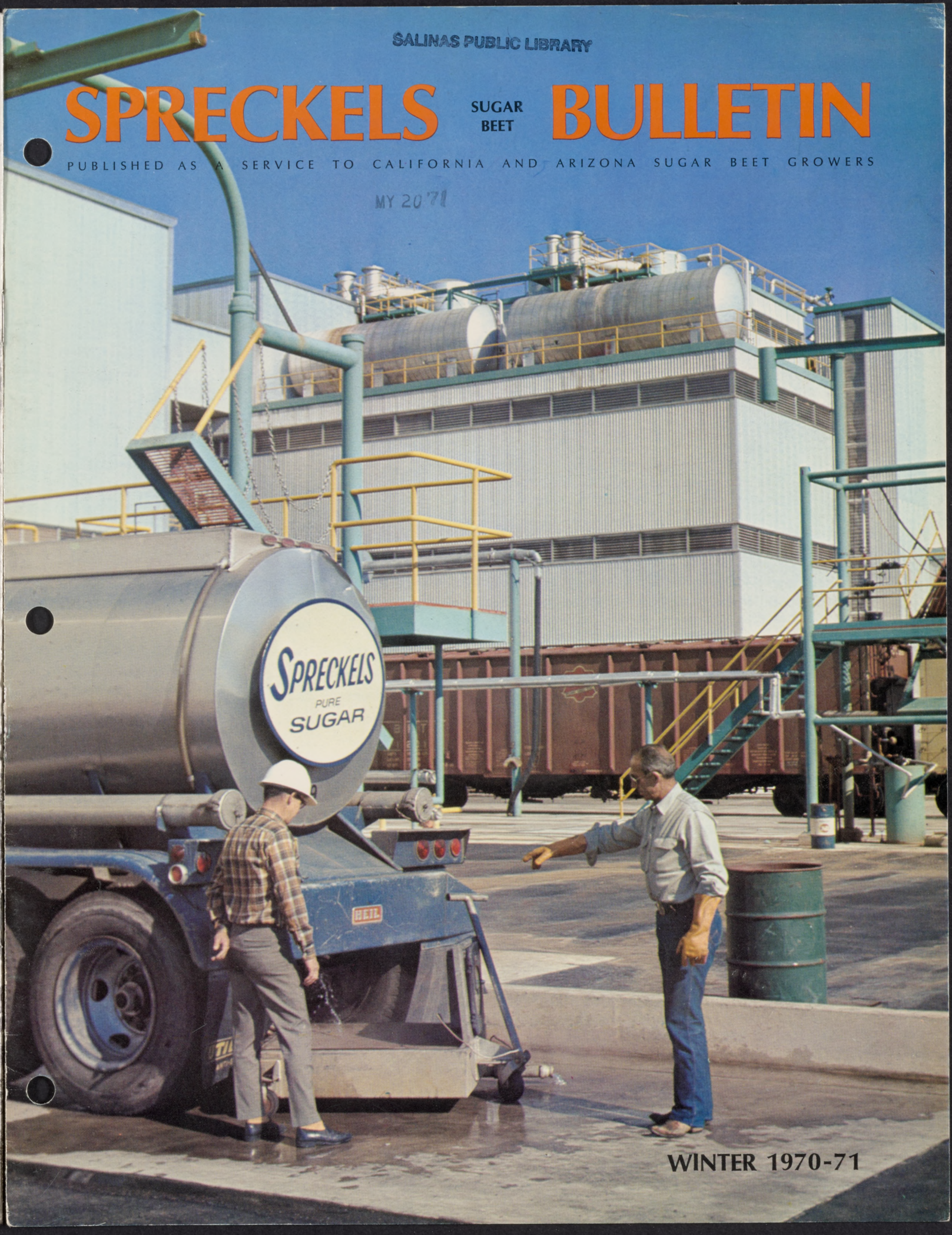






SPRECKELS SUGAR BEET BULLETIN

PUBLISHED AS A SERVICE TO CALIFORNIA AND ARIZONA SUGAR BEET GROWERS



WINTER 1970-71

AGRICULTURE

The Water Subsidy Myth

Agriculture, and its associated industries, provides our dense urban populations with their food and much of the basic materials to clothe and house them. This has been made possible by rapid mechanization, improved strains of crops, and judicious use of fertilizers, pesticides, and irrigation water. The environmental quality of "greenbelts" and other "open spaces," for which urban man yearns, is supplied copiously by agriculture. Yet, many of these same people tend to look down upon agriculture while at the same time believing that they are somehow subsidizing it — with particular reference to water. Let's look at the other side of the picture.

The prime agricultural lands in California are the flood plains — the valleys down to and including the basin lands. This land has been provided with an adequate water supply for agriculture, but the supply has often been "mined" — through ground water extractions far beyond the capability for natural replenishment. Fortunately, the wealth created by irrigated agriculture has made it possible to obligate the land to repay the cost of surface water development schemes to supplement the groundwater supply. Thus, agriculture has above all, made massive water development possible in California — so one out of every 10 citizens of the United States can call California home.

California's burgeoning urban population finds the flood plains are the cheapest and easiest places to settle. There is a built-in water supply, and the flat topography and alluvial soils are ideally suited for urban construction. The urban sprawl begins here and is continually encroaching upon our best agricultural lands. Two public policies are involved, and there will be no change until these policies are radically altered:

(1) The policy of flood control as a non-reimbursable public expense. While the flood plains can be precisely delineated (with agricultural soil surveys), it is present public policy that all people share in the cost of flood control. This is not equitable. Through the centuries, in various parts of the world, agriculture has always survived floods, and can continue to do so. It is a sparsely populated activity, and either flood-proofing or escape possibilities are usually feasible. There are major urban benefits in the short term but in the overall view, flood control involves continually escalating costs, and unwise public policy. If, henceforth, the urbanizing land owners benefitting had to pay the costs of flood control this would be a real deterrent to indiscriminate urban sprawl. Federally sponsored flood insurance would be most helpful, but for agriculture rather than for urban concentrations

(Continued on page 33)

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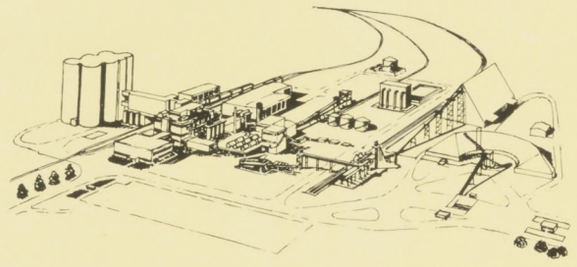
VOL. 34 WINTER, 1970-71 No. 4



Spreckels Sugar Beet Bulletin is published quarterly by the Agricultural Department of the Spreckels Sugar Division, Amstar Corporation, as a service to its growers. Mention of specific methods, devices and implements does not constitute an endorsement by the publisher. Please address all communications to: Spreckels Sugar Beet Bulletin, P.O. Box 325, Mendota, California 93640. Please include your zip code.

Cover Comment: Front — Sugar tanker at Spreckels Chandler, Arizona factory. Back — New Spreckels Sugar bag design.

The Printer, 707 2nd Street
Davis, California 95616

The use of solid set sprinkler systems has increased dramatically in the Southern San Joaquin and Salinas Valley areas.

Solid Set Sprinklers In Sugar Beets

By Frank N. Hunt

Mr. Hunt is a Field Superintendent in the Arvin and Conner areas of District IV, Mendota. He is headquartered in Bakersfield, California.

It is well established that water, like nitrogen, is an important factor in successful sugar beet production. Once beets have been stressed for moisture, they will never attain their full potential. Yet, too much water placed on the beets will slow growth and may even cause beets to rot.

It has been demonstrated by a number of growers in the Arvin area that the easiest way to maintain the desired moisture level in their fields is with a solid set sprinkler system. This system has been used a number of years in vegetable crops, but only recently in sugar beets.

With the increasing cost of water and expensive and often unreliable labor, it is becoming more and more important to use the most efficient water delivery system possible.

Water use efficiency can be increased as much as 50 percent by using sprinkler irrigation. Field tests have proven that surface flood irrigation effectively utilizes only about 40 percent of farm delivered water. This is compared to an average of 60 to 65 percent efficiency for sprinkler irrigation. You would think that because sprinklers throw water into warm dry air the loss from evaporation would be considerable. In reality though, the water lost through evaporation isn't as great as it is under flood irrigation. It takes only a fraction of a second for the water to travel from the nozzle to the soil. In addition considerable quantities of water are lost to non-crop areas under furrow irrigation because of percolation.

With the use of a solid set sprinkler system during the hot summer months, water can be applied as frequently as necessary. The ground need never become dry, yet is never saturated, maintaining steady, vigorous growth of the sugar beets. Sprinkling is also beneficial to sugar beets being grown in the Interior Valley

because it lowers the plant's temperature during the hot summer months which enables the plant to maintain a better rate of growth.

The solid set system can be used for many purposes which include germination, salt leaching, herbicide incorporation, and uniform plant establishment and growth. The system can either be left in the field until harvest or removed when the plants are well established.

LINE LAYOUT

There are a number of ways of setting up a solid set sprinkler system. One of the easiest to work with is used by an Arvin area grower. The ground is first furrowed out into 30 inch beds. The sprinkler lines are then placed on every twenty-first bed. The beets are planted on the 20 rows between the sprinklers with a four row sled. Using this method, the pipe never needs to be moved for cultivation or any other operation. If the pipe is not placed on a blank row it would have to be moved to allow equipment to pass through the field.

Solid set systems are often used for only part of the season. They are used to achieve a stand only and then moved out or are not put in place until the beets have been thinned and cultivated. In either case, the sprinkler lines are placed in the furrows and not moved while the solid set system is in place.

Last year there were a number of growers that had problems with line-movers and it is expected that these problems will get worse. Most growers in the Arvin area either pay $1.75 per hour or pay piece work rates for moving pipe. The minimum rate early in the season is $2.50 to move a quarter mile line 50 feet. As the weather gets hot and the beets get bigger, the rate goes up to $3.00, if movers can be found at all. Last August, some line handlers were paid as high as $5.00 to move lines in cotton; this could follow for sugar beets. To get away from this problem, solid set sprinklers sound quite appealing.

COST

The biggest obstacle to a solid set sprinkler system is cost. To buy the laterals for a solid set system runs $550.00 to $650.00 per acre. By purchasing used pipe, this can be reduced by approximately 20 percent. This does not include the booster pump or the cost of the main line. A butane operated booster pump which can handle 80 acres, costs about $2,000. The main line for 80 acres costs approximately $3,500.

The cost of renting the lateral pipe for one year is $130.00 per acre. The pump would rent for $300.00 per month. Cheaper rates can be arranged if the pipe is used in other crops. An example of this would be Icardo Bros. near Mettler. They rent the pipe from December until the last of June for $65.00. One

Field Superintendent Frank Hunt is shown discussing solid set sprinklers with Ralph Forrest of Arvin, California.

Arvin grower, rents pipe for three months starting the first of May for a cost of only $35.00 per acre. To all of these costs an additional $15.00 per acre must be added to pay for the moving of the pipe in and out of the field.

To compare the cost of a solid set system with a hand moved system is very difficult due to the many variables involved. Some factors to consider are the expected life of the pipe, the amount of pipe needed, and the difference in rental or purchase prices. The expected life of the solid set system is about 15 years with only minor repairs, while hand moved pipe will not last as long. It takes about 10 times the number of lateral lines for a solid set system than it does for a hand moved system. Rented hand moved pipe will cost about 20 percent more per line, one reason being the excessive wear and tear it gets.

It is hard to say whether a solid set sprinkler system will pay in all beet fields, but Ralph Forrest who farms in the Arvin area, has a record that is hard to beat. Ralph generally plants in February and harvests in July and August. During the past three years he has averaged 34.75 tons per acre compared with an Arvin station average of 25.67 tons per acre. His solid set system may not be the only reason for his fine record, but it sure helped.

—•—

Pride In The Past
Promise For The Future

By Joseph P. Bock

Mr. Bock is a San Francisco based Vice-President in the Sales Department of the Spreckels Sugar Division, Amstar Corporation.

"You've come a long way, Baby!" Governor Reagan could have used this cigarette slogan, popularized last year on television, in his 1970 proclamation saluting the 100th anniversary of the U.S. Beet Sugar Industry. The "baby" successfully launched by Mr. Dyer at Alvarado in 1870 has indeed come a long way, and California beet growers and sugar companies celebrated the occasion by "doing their thing" beautifully — record acreage, record crops, record production, and record sales. While all returns on the 1970 crop are not in (spring harvest in Northern California and the Imperial crop are still to be counted), there seems to be no doubt as to the favorable outcome; it's "in the bag", one might say. And 1970 calendar year marketings are in the history books. From a sales standpoint, Spreckels achieved a record-high volume in California and throughout the West at prices which will provide a historically high return to Spreckels growers for their fine crop.

Events of the calendar year 1970 tend to confirm the fact there is no such thing as a "normal year" in the sugar business. Certain abnormal situations in marketing have had a substantial effect on final favorable marketing figures. It goes without saying that *all* results are affected by the level of sugar beet production. The strong base for 1970 marketings provided by our growers in record acreage and high yields and sugar content are the root of 1970 marketing records for Spreckels Sugar. You can't sell sugar if you don't have it, and in 1970 we had it when we needed it.

There were four developments which separately and in combination contributed to 1970 sales records.

First, as the year progressed, it became apparent that the consumption habits of the country were undergoing a change — sugar distribution nation-wide was in an up-trend. The result was a per capita consumption in 1970 of approximately 102 pounds, compared with 97 pounds around which the consumption level has hovered for some years. While the Federal Government's ban on the use of cyclamates as a sweetening ingredient brought about some of this growth, it is felt that there is a more fundamental change at work, bearing out the optimism this new level of consumption will be continued.

Second, we must acknowledge the substantial effect on deliveries in California of a long interruption in the operation of the single cane refiner west of the Rockies. Starting June 1 and continuing for 116 days, right up to the end of the seasonal canners' campaign, this strike put under extreme pressure our substantial June 1 inventories and the full production capacities of our factories as abnormal demand was presented to California's largest beet sugar producer, Spreckels. It must be said with understandable pride that your Spreckels plants and personnel at the factories performed miracles in maximizing production and shipments to fill orders by the trade — to the long-term benefit of Spreckels' trade relationships.

Third, the price of refined sugars throughout the United States began at last to reflect more realistically the higher cost of raw materials, transportation, labor — in fact, every item of production and marketing. As a result, the return on Spreckels sugars which may be shipped to mid-Western markets under what are considered "normal" marketing conditions will adequately justify the high degree of interest in maximum beet acreage on the part of Spreckels' growers.

PRIVATE BRANDS

Fourth, and finally, the decision of Spreckels, late in 1969, to respond affirmatively to the strong interest of the grocery trade for a top quality sugar packed in bags bearing the customer's brand identification (so-called "private" brand) filled a real need in a grocery market which historically was substantially in the hands of only one brand. The support of the trade, not only of their "private" brand, but of Spreckels' well known, advertised brand has made (and will continue to make) a strong contribution to our increased volume in "home" territory, as well as a contribution to the rising net selling price to growers.

Friends of Spreckels can easily identify these Spreckels-produced sugars in private brands on the grocers' shelves. Each one bears the same "red tab" as the Spreckels brand package, signifying not only the neat, easy, and convenient package opening but assuring the customer that Spreckels' quality product is inside that bag. (See page 30).

Spreckels' capable and experienced sales group is geared to the great opportunity presented by the present level of sugar beet production and is committed to a program to assure to our growers by every means at our disposal the maintaining and further growth of our position as a major supplier of a high quality product to the sugar user of the West.

—•—

PRIVATE BRANDS

Alpha Beta Acme
Southern California

Ralphs Grocery Co.
Southern California

Certified Grocers of Calif.
Southern California

Kockos Bros. Inc.
Northern California

Fed Mart Stores
Southern California

Food Giant Markets
Southern California

A. M. Lewis Co.
Southern California

Lucky Stores Inc.
Southern California

Market Basket Stores
Southern California

VONS

Vons Grocery Co.
Southern California

Food Club

A. J. Bayless Mkts., Inc.
Arizona

BONNIE HUBBARD

United Grocers Co.
Northern California

WESTERN FAMILY

Associated Food Stores
Northern California

Smitty's Big Town Mkts.
Arizona

IRIS

Smart & Final Iris Co.
Los Angeles

Empress

Safeway Stores, Inc.
Northern California
Arizona

Home Garden

Market Whsle. Groc. Co.
Northern California

mayfresh

Arden Mayfair Mkts. Inc.
Northern California
Arizona

WESTERN VALLEY

Associated Grocers
Arizona

DENNIS PELUCCA

Modesto Youth Wins National 4-H Honor In Field Crops Science

Dennis Pelucca, a seventeen year old Modesto High School Senior recently won a national 4-H award for excellence in field crops science.

The award was made to Dennis at the National 4-H Club Congress in Chicago. Accompanying the award was a 600 dollar college scholarship.

Prior to his national award Dennis was declared a State and Regional winner which provided a free trip to the Congress. He was also designated a County 4-H All-Star.

ACTIVELY FARMS

Dennis has been a 4-H Club member for six years and is the son of Mrs. Gertie Pelucca of Modesto. He has been involved in field crops science projects for the last five years and along with his two brothers has been actively running the family farm ever since his father died two years ago.

Neighbors thought the Peluccas would have to sell the farm, and they might have, according to Dennis if it wasn't for the training he and his brothers received from 4-H activities and their father, and also for the love of living in the country.

Dennis has now acquired the planning, operational, marketing, financial, and management skills needed to help make farming decisions along with his mother who Dennis says knows plenty about farming herself.

SUGAR BEET PROJECT

Dennis' primary interest in field crops has been in sugar beets. He has actively participated in the 4-H Sugar Beet Project which is a cooperative program developed by Spreckels Sugar and the Agricultural Extension Service. While a participant in the project he received the coveted Spreckels Silver Sugar Bowl Award.

Other field crops which Dennis has raised include hybrid onions, carrot seed, tomato transplants, barley, and alfalfa. He has completed projects in entomology, foods, gardening, and wildlife and has also found time for community service, citizenship, recreation, judging, demonstrations, marketing, and camping. To round out his 4-H program, he has been President, Treasurer, and Historian of his Club of 105 members, is active in Sunday School, played in the high school band, lettered in cross-country, and has been an active junior leader since 1967.

In addition to his 4-H activities Dennis helps run the family farm.

Agricultural Staff Notes

Selected notes and observations from Spreckels Sugar Company's Agricultural Research and Field Staffs.

PRECISION PLANTING

For the last two years Chualar Old Stage Farms, Inc., has planted to a stand, achieved excellent weed control and has used little or no hand labor on their sugarbeets.

Planting is done as early in the year as possible. Stanhay planters are used to space the standard processed seed (non-pelleted) at an average of 4.9 inches. Ground speed is held constant at 3 m.p.h.

During the planting operation an anti-crusting agent and an herbicide are also applied just behind the planter packer wheels. A 20 percent phosphoric acid solution is used as the anti-crusting agent and is applied at 40 gallons per acre in a 2½ inch band over the seed row.

Pyramin 80W was the herbicide used and it was applied through a separate spray system on the sled in a 5 inch band over the seed row. The rate used was 5 lbs. per acre.

The post-plant pre-emergence application of Pyramin must be moved into the soil with water to become effective. Last year the Pyramin was activated and the seed germinated with a ¾ of an inch application of sprinkler water. This year it rained .85 of an inch the day after planting and no supplemental water was applied.

The results both years were very good. The weed control was excellent and there were fewer than 20 percent doubles in the final stands of beets. In addition to the initial weed control, excellent residual control was also achieved from the herbicides.

Chualars management believes that this method of growing sugar beets saves them anywhere from 35 to 50 dollars per acre in growing costs.

Art Young - Salinas

FERTILIZER PLACEMENT

One of my growers commonly spreads 16-20-0 as a preplant fertilizer. Apparently, this year, one of the spreader trucks applied an excessive amount of material and caused a severe burn in streaks across the rows. There was a considerable yellowing and loss of stand in these streaks and the remaining beets are mostly sprangled from tap root burn. Two fields on this ranch received 400 pounds of 8-24-0 banded directly under the seed and their appearance sold the grower on eliminating his former practice of spreading fertilizer. This grower has also figured out that the 8-24-0 band is the least costly in satisfying the phosphate requirement of sugar beets.

Ben Marcum - Mendota

THE WATER SUBSIDY MYTH

(Continued from page 26)

that face ultimate disaster.

(2) The public policy that urban usage is the "highest and best use of the land." The ad valorem tax on land is required to provide governmental services to those who occupy the land. Agriculture involves sparse populations and equitable assessments should be low, commensurate with the services received. Urban populations are relatively dense, and assessments, to be equitable, should be high. Instead, assessments are based on the speculative value related to the prospects of urbanization, which results in agriculture subsidizing the services required by the urban communities.

An equitable policy might be, first, to assess the land on the basis of use (for agricultural use with low population density, the assessment should be low), and, secondly, to assess a one-time capital gains type tax when the use of the land changes. This should be paid by the subdivider who changes the use and could well be high enough to take the profit out of urban sprawl.

Urban man does value open spaces and greenbelts, and continually moves toward the periphery of cities. However, if our public policies did not make this migration so easy, efforts might instead go into improving the now sadly neglected inner cores of the cities.

This editorial was written by Arthur F. Pillsbury, Director, Water Resources Center, U.C. Los Angeles. It appeared in "California Agriculture" a publication of the University of California Division of Agricultural Sciences.

MEL VOOS TO SALES DEPARTMENT

Melvin H. Voos, Agricultural Superintendent in District I, Salinas, recently accepted a position in the Sales Department of the Spreckels Sugar Division as Assistant Area Manager - Central Region Sales.

Mel joined Spreckels Sugar in 1963 as an Assistant Field Superintendent in District II, Manteca. He subsequently served as a Field Superintendent in the District III, Woodland, area; Assistant to the Agricultural Manager in San Francisco, and Agricultural Superintendent, District I, Salinas.

He is a native of Elk Grove, California and attended the University of California at Davis where he majored in Agricultural Education.

Mel, his wife Penny and one child will reside in the San Francisco Bay Area.

ART YOUNG HAS NEW POSITION

Arthur C. Young, Jr., Field Superintendent in District I, Salinas, recently accepted the newly created position of Assistant Farm Properties Manager.

Art joined Spreckels Sugar in 1958 as an Assistant Field Superintendent in District III, Woodland. In 1959 he was transferred to District I, Salinas, as a Field Superintendent.

He is a native of Santa Maria, California and attended the University of California at Davis where he majored in agronomy.

Art, his wife Nancy and two children will continue to reside in Salinas.

BILL BLANKEN TO MENDOTA

Hiram W. Blanken, Field Superintendent in the West Phoenix and Buckeye areas of District V, Arizona, has been transferred to District IV, Mendota. He will serve as Field Superintendent in the Hanford, Lemoore, Huron and Kettleman City areas.

Bill joined Spreckels Sugar in 1966 as an Assistant Field Superintendent in District II, Manteca. He was transferred to Arizona as a Field Superintendent in 1967.

He is a native of Hanford, California and attended Fresno State College where he majored in Agriculture.

Bill, his wife Nancy and three children now reside in Hanford.

NORM SHELTON TO ARIZONA

Norman P. Shelton, formerly Field Superintendent in District III, Woodland, has been transferred to District V, Arizona, where he will serve as a Field Superintendent in the factory area.

Norman joined Spreckels Sugar in 1965 as an Assistant Field Superintendent in District I, Salinas. In 1966 he was transferred to District III, Woodland, as a Field Superintendent.

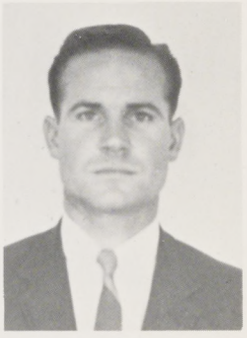
He is a native of Madera, California and attended Fresno State College where he majored in Animal Husbandry.

Norm, his wife Francis and two children now reside in Tempe, Arizona.

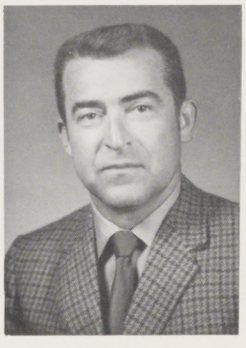
LARRY ELLIS TO SALINAS

Lawrence W. Ellis, formerly Assistant Field Superintendent in District II, Manteca, has been promoted to Field Superintendent in District I, Salinas. He will serve in the Chualar and Greenfield areas. He joined Spreckels Sugar in 1969 at Manteca.

He hails from Woodland, California and attended Fresno State College where he majored in Zoology.



Mel Voos



Art Young

Larry and his wife Ann reside in Salinas.

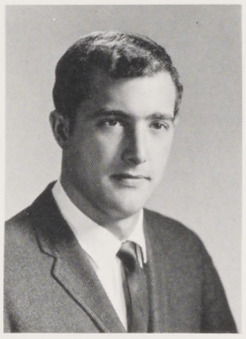
JERRY GALLAGHER TO WOODLAND

Jerry M. Gallagher, formerly Assistant Field Superintendent in Distrcit I, Salinas, has been promoted to the position of Field Superintendent and transferred to District III, Woodland. He joined Spreckels Sugar in 1969 at Salinas.

He is a native of Woodland, California and attended Chico State College where he majored in Agricultural Business Management.

Jerry, his wife Nan and daughter now reside in Woodland.

Bill Blanken



Larry Ellis

Gary Allen

Gerald Kley

Norman Shelton

Jerry Gallagher

John Watson

Terry Talbot

GARY ALLEN PROMOTED

Gary M. Allen, formerly Assistant Field Superintendent in District V, Arizona, has been promoted to Field Superintendent for the West Phoenix and Buckeye areas. He joined Spreckels Sugar in 1969 at Chandler, Arizona.

A native of Litchfield Park, Arizona, he attended Arizona State University where he majored in Agricultural Crop Production and Management.

Gary and his wife Nancy reside in Goodyear, Arizona.

JOHN WATSON TRANSFERRED

John H. Watson, Assistant Field Superintendent, has been transferred from District V, Arizona to District IV, Mendota.

John was recently discharged from the U.S. Army where he served as a Communication Sergeant in Viet Nam.

He is a native of Arbuckle, California and attended California State Polytechnic College at San Luis Obispo where he majored in Agricultural Business Management.

He now resides in Fresno.

KLEY JOINS ARIZONA STAFF

Gerald R. Kley is the newest addition to the District V, Arizona, staff. As an Assistant Field Superintendent he will work with the Agricultural Field and Research Staffs.

He hails from Arbuckle, California and attended Fresno State College where he majored in Agronomy.

Gerald, his wife Sharon and daughter now reside in Tempe, Arizona.

STAFF ADDITION AT MANTECA

Terry R. Talbot recently joined Spreckels Agricultural Department at Manteca as an Assistant Field Superintendent. He will work with the Agricultural Research and Field Staffs.

Terry claims Fresno as his home town where he attended Fresno State College with a major in Agronomy.

Terry, his wife Alice and son reside in Manteca.

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Donald R. Hefner	*District Manager*	WOODLAND	916-662-3261
William R. Duckworth	*Agricultural Superintendent*	"	"
Frank R. Nelson	*Field Superintendent*	"	"
William W. Porter	" "	"	"
Lee O. Seda	" "	"	"
Norman D. Shelton	" "	"	"
Jerry A. Sagaser	" "	"	"
Jeff L. Stober	" "	"	"

DISTRICT 4 — SOUTH SAN JOAQUIN VALLEY

Dan L. Dieter	*District Manager*	MENDOTA	209-655-4961
Stanley D. Bayer	*Agricultural Superintendent*	"	"
Jack H. Griffin	*Field Superintendent*	"	"
Gerald G. Nordstrom	" "	"	"
Richard P. Heimforth	" "	"	"
W. Ben Marcum	" "	"	"
Ronald L. Jones	" "	"	"
Eddy J. Lazaroti	*Assistant Field Superintendent*	"	"
Morris B. Ball	*Field Superintendent*	VISALIA 2442 W. Beech St.	209-732-6532
Vernon D. Sherwood	" "	VISALIA 1334 Chatham Dr.	209-732-7107
J. Gib Maurer	*Agricultural Superintendent*	BAKERSFIELD 431 Kentucky St.	805-324-4904
Martin Chernek, Jr.	*Field Superintendent*	"	"
Carlton G. Schaffer	" "	"	"
Frank N. Hunt	" "	"	"

DISTRICT 5 — ARIZONA

Ralph S. Lambdin	*District Manager*	CHANDLER, ARIZ.	602-963-7311
James E. Gardiner	*Agricultural Superintendent*	"	"
Charles M. Carlson	*Field Superintendent*	"	"
Michael T. Daugherty	" "	"	"
Jay N. Hill	" "	WILLCOX, ARIZ.	602-384-2323
William W. Story	" "	"	"
H. William Blanken	" "	"	"
Michael R. Petersen	" "	"	"
Olen C. Zirkle, Jr.	" "	SAFFORD, ARIZ.	602-428-2918
Denzil H. Farbo	" "	LORDSBURG, N. MEX.	505-542-9587
Gary M. Allen	*Assistant Field Superintendent*	CHANDLER, ARIZ.	602-963-7311

SPRECKELS SUGAR BEET BULLETIN

Gerald G. Nordstrom	*Editor*	MENDOTA	209-655-4961

THIS FILE FOLDER accompanies the year's first issue of the Spreckels Sugar Beet Bulletin.

We hope that you will save this folder, so that future issues may be filed for reference.